



**CALIFORNIA STATE SCIENCE FAIR  
2014 PROJECT SUMMARY**

<b>Name(s)</b> Nicole M. Hanson	<b>Project Number</b> <b>J1217</b>
<b>Project Title</b> <b>Side Effect: An Experiment to Determine Side Dominance</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The purpose of my project was to determine side dominance for subjects and better understand how the body and brain work together.</p> <p><b>Methods/Materials</b> 1. Set up a quiet room with materials. 2. Conduct Tests: Hand Dominance: a) Give subject paper and pencil. Ask them to write their name and age. b) The subject will throw a ball. Foot Dominance: a) Ask subject to kick a ball. b) Ask subject to hop on one foot. Eye Dominance: a) Cut a 1cm hole in the middle of a piece of paper. Place a penny on the ground. The subject holds the paper and finds the penny while looking with both eyes open through the hole in the paper. Close one eye and ask if they can still see the penny. b) Ask subject to look through a paper towel tube. Ear Dominance: a) Ask subject to pick up and listen to a cell phone. b) The subject will stand facing a wall and be asked to listen through it. 3. Note which hand, foot, eye or ear is used in each test and record the results for each subject. 4. Repeat this procedure for 20 subjects- 10 male/10 female. Materials: Paper, pencil, ball, scissors, penny, paper towel tube, cell phone, table and chairs.</p> <p><b>Results</b> When 20 subjects were tested for side dominance, the subjects were mostly right side dominant, but they did not all have the same side dominance for all the areas tested. Overall, 60% were right sided dominant, 18.75% were left side dominant, and 21.25% were ambidextrous in at least one area tested.</p> <p><b>Conclusions/Discussion</b> When evaluating 20 subjects for side dominance for their hands, feet, eyes, and ears by testing each area in two different ways, it was found that the majority was right side dominant. The results were different in the subjects tested. Overall, 60% of the subjects were found to be right side dominant. Discussion: The results were not totally consistent with my hypothesis. Although I was correct in predicting that the majority would be right side dominant, I thought most would have the same side dominance for all the areas tested. However, only four subjects had the same side dominance for all the areas tested. In the future, I would use a more accurate test for eye dominance that is not affected by which hand is dominant, do more trials, and possibly test just athletes or compare family members. In real life, testing for side dominance can help us understand how the brain and body work together.</p>	
<b>Summary Statement</b> This science project is about determining side dominance for subjects by testing their hands, feet, eyes and ears and better understanding how the body and brain work together.	
<b>Help Received</b> My mom cut paper for me and helped proofed my work, and my dad helped with computer problems.	