



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> <b>Aidan P. Chandless</b>	<b>Project Number</b> <b>J0604</b>
<b>Project Title</b> <b>The Impact of Eye Dominance on the Interpretation of Optical Illusions</b>	
<b>Abstract</b> <b>Objectives/Goals</b> This study analyzes the impact of people's eye dominance on their perception of optical illusions. This study is intended to answer the question, "Do people with a dominant left eye perceive optical illusions differently than people who have a dominant right eye?" <b>Methods/Materials</b> 69 individuals were given the same optical illusion test. Test participants were shown 12 different illusions and asked a specific question about each one. The questions captured the participant's perception of each illusion. This data was recorded and compared. Participants were tested for eye dominance. Participants varied in age from 6 to 73. Although mostly located in California, participants were also located in New York, Massachusetts, and North Carolina. Participants were both male and female.  Independent Variable: different individuals were given the test. Dependent Variable: the results of what the participants saw in the illusions Constant: the same illusions were given to every participant. Number of Trials: the test was given 69 times to 69 different individuals <b>Results</b> The first pattern I saw in the data proved my hypothesis wrong. I found that there was no significant difference in how people perceived the illusions even if they had different dominant eyes. For example, in chart #1 and chart #2 on my display board you will see that for all images the results were very similar for respondents with right eye dominance or left eye dominance. In image #1 on my display board, 80% of people with a right dominant eye saw response one, and 90% of people with a left dominant eye saw response one, not a significant difference. We also tested the percentage of participants, broken down by eye dominance that saw the most common response for each image. Each of the analyzed illusions has two basic interpretations. We wanted to see what percentage of people saw one interpretation versus the other. The results show that there was no significant difference between the perceptions of people with a right dominant eye versus people with a left dominant eye. <b>Conclusions/Discussion</b> My hypothesis was that people who have a left dominant eye perceive optical illusions differently than people who have a right dominant eye. My hypothesis was incorrect. There was no significant difference in how people with a right dominant eye and with a left dominant eye perceive optical illusions.	
<b>Summary Statement</b> My project is about the effect of eye dominance on the perception of optical illusions.	
<b>Help Received</b> My father taught me how to use Excel for my results.	