



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Lena K. Egbert	Project Number J0607
Project Title Cranial Confusion: How the Brain Adapts to Left-Right Inversion	
Abstract Objectives/Goals I wanted to find out if age was a factor in how people adapted. Specifically, I wanted to find out if age affected a person's ability to adapt to a computer mouse that inverted the direction of motion of the cursor on the computer screen. Methods/Materials I used two computer games to measure a person's adaptability. In both games, a target circle is presented at a random location on the computer screen. The goal is to move the cursor over the target and click the mouse. When the target is clicked on, a new target appears at another random location on the screen. The game lasts 1 minute and the total number of targets clicked on is the score. The first game has a mouse cursor that moves normally. The subject plays this game 3 times and I consider the average score as the subject's "normal" score. The second game has a mouse cursor that is "inverted". This means if the mouse is moved left, the cursor moves right and vice versa. Up and down are also reversed. The subject plays this game 3 times. I compared the score of the last "inverted" game with the "normal" score. I did this by expressing the last inverted score as a percentage of the normal score. Results I studied the scores from 100 people of different ages. I categorized my subjects by age group as kid, teenager, young adult, adult and senior. The average of each category is shown below: Kid = 28 Teenager = 53 Young Adult = 42 Adult = 39 Senior = 47 Conclusions/Discussion My results show me that age does not affect how well a person adapts to an inverted computer mouse. However, people who use the computer more were able to adapt much better. I also found that people who use the computer very little or never had similar scores for both games.	
Summary Statement Does age affect how well the brain adapts to inversion of directions?	
Help Received Brother helped make computer game; Mother drove me to subjects' houses.	