



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Laura J. McKinstry	Project Number J1023
Project Title Social Cognition in Mice	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Mice have been a popular study topic ever since scientists began to try to comprehend the human brain. In this experiment, I have begun to answer the question, #Can mice learn by observing one another?#</p> <p>Methods/Materials I set up an arena with a paneled wall and had one panel become a door in which a mouse could go through. Then I had 10 mice observe a mouse go through that door and I tested each mouse that had observed the one mouse to see if they learned by observing. I recorded the time it took each mouse to poke its nose at the hidden door. These times were compared to a control group of 10 mice that watched a teacher for the same amount of time. In the control group the teacher mouse never went through the door.</p> <p>Results My results were that the control group#s time average was 346.8 seconds and the manipulated group#s time was only 284.2 seconds. The four lowest times among the twenty mice belonged to the manipulated group.</p> <p>Conclusions/Discussion Even though the average times indicate that the mice learn by observation, the data range for the manipulated group was large and therefore the data is less certain. However, the four lowest times among the twenty mice belonged to the manipulated group. There is less than a 5% chance that the four lowest times would be assigned to one group if the times were chosen randomly from the same range. According to the data, mice may be able to learn from each other by just watching one another.</p> <p>My results are important because they support the fact that even one of the simpler rodents can learn from each other. Scientists can now use this method to train mice in large numbers.</p>	
Summary Statement This project is about finding out if social cognition exists in mice by asking the following question: are mice able to learn from one another by observation?	
Help Received Dad helped with statistical test, and guidance in building the door apparatus. Mom provided moral support, and helped with poster construction. Doug Nitz of the Neurosciences Institute provided plexiglass container.	