



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

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<b>Project Title</b> Mice Memory	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> For this year's science fair project, I chose to investigate if a mouse will memorize a maze if he or she completes it multiple times, allowing me to see whether or not mice learn just as humans do. The main topic that this relates to is animal psychology. I chose this experiment because I love psychology and I love animals, and have often thought of one day searching for cures for difficult and painful illness and disease many humans suffer, as well as fighting against cruel treatment of animals, so this just clicked!</p> <p><b>Methods/Materials</b> After began by learning of the various types of mazes suitable for my experiment. After choosing a style and building my maze, I took 10 mice and individually ran them through the maze multiple times to learn if they'd show signs of improvement in memorizing the maze. I used treats (I found fresh produce worked better than dried treats) and placed several at the end of the maze, to create positive reinforcement and association with its completion. I sent each mouse through multiple times, documenting their time for each run, and for each mouse.</p> <p><b>Results</b> Each mouse showed some substantial improvement after completing the maze even just once, though each clearly showed differences in personality and motivation or lack thereof. In the course of my study, I have concluded that mice have both STM (short term memory) and LTM (long term memory) just like humans. This enables them to have the ability to memorize pieces of information. That's why these mice were able to memorize this maze. This proves my hypothesis correct; mice can learn to memorize a maze if he has completed it more than once.</p> <p><b>Conclusions/Discussion</b> As we find how similarly mice learn to humans, they could help us learn about how we lose memory, how we strengthen our memory, and how we might treat memory loss. Learning how similar they are to us, and how intelligent they are, might have an effect on how humanely we treat these animals. Maybe cruel mouse traps wouldn't be used as easily as they are now, where the mice suffer for long periods of time dying a slow and inhumane death. Did you know that when a collection of favorite treats were placed near a trapped mouse, a mouse free to eat and keep their favorite treats all to themselves, chose to free the trapped mouse first and share their treats instead. Something to consider when choosing how you might choose to deal with one running free in your home.</p>	
<b>Summary Statement</b> To learn if mice are able to memorize a maze by completing it more than once, using both STM (short term memory) & LTM (long term memory) just like humans, as I proving such similarities can help us to strengthen our own memories and to	
<b>Help Received</b> My father helped w/design ideas and to cut the thick materials in the maze, When it got late, my mother stayed up to help type my report and encouraged me to do my best, Mark the Manager @ Pet Smart allowed me to use supplies & even mice to do my research, & my teacher Miss Ligeti offered her	