



**CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY**

Name(s) Isaiah E. Cooper	Project Number J1005
Project Title The Power of Rat Senses	
Abstract Objectives/Goals My project was to determine the role of rats' memory and senses in navigating a maze environment. I believe that their sense of smell will be better than their sense of sight, and that they can learn the layout of a maze quickly. Methods/Materials To construct the maze I used two pieces of 20"x30" thin sturdy board for walls and one piece 20"x30" thick sturdy board for the base (sturdy board is styrofoam in between two pieces of construction paper). I used poster putty in order to keep the walls down while retaining an ability to change the layout of the maze. For their memory tests I put them through the same maze repeatedly every day for a month. For their sight I put different colored paper on the floor and recorded what percentage of the path they followed, and later repeated the same process but put the paper on the walls. For their sense of smell I applied different food scents to the floor of the maze and recorded what percentage of the path they followed. Results The rats' memorized the maze layout fairly well in the amount of time they had, their times went from above four minutes to thirty seconds. They did very good at the sight tests, following the whole path on the wall and floor maze. They didn't do to well on scent tests, barely following some of the paths of smell but doing really well on following some of the other scents. Conclusions/Discussion I found that rats have a good memory, which they must have to memorize their environment. I learned they have better sight than I had anticipated they did. Their sense of smell is fairly good, but not as good as I thought it may be.	
Summary Statement Testing rats' senses and memory in a maze environment.	
Help Received Mom, County Fair Advisers helped with back board and presentation	