



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> Austin M. Campbell	<b>Project Number</b> <b>J1004</b>
<b>Project Title</b> <b>Do Mice Experience the Same Fight, Flight, or Freeze Response As Humans Do When Faced with Their Fear?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My project was to determine if fear has an affect on the behavior of a mouse. I believe that a mouse will reach the end of a maze in a slower time after the rats# scent is added to the maze.</p> <p><b>Methods/Materials</b> In this project,15 brown mice and 15 white mice held in 15 separate containers, 4 rats, a timer, a cheese and peanut butter treat, a self-constructed wood maze, and a screen lid were all used. All 30 mice were timed as they ran through the maze till the end where the treat was located. After this trial run, rats were released in the maze so they could spread their scent. The mice were timed again to see if they would speed up or slow down after smelling the scent of the rat. The entire experiment was conducted two times for improvements. A paired-sample t-test was used in the second trial for increased accuracy.</p> <p><b>Results</b> The mice did not show a difference in their times after the introduction of the rat scent in either of the two trials. The significance level, which was far greater than .05, was too high to generalize.</p> <p><b>Conclusions/Discussion</b> My conclusion is that mice do not have a natural fear of rats as my research stated or that the scent of a rat is not a variable that affects a mouse#s speed. I believe that mice need to see their fear in order to be afraid.</p>	
<b>Summary Statement</b> My project tested the speed of mice before and after the introduction of a rat scent in a maze to see if mice experience the same fight, flight, or freeze response as humans do when faced with their fear.	
<b>Help Received</b> Mother explained t-test; Step-father helped build maze; Mother and brother helped take mice in & out of the maze; Father gave input into design of experiment.	