



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <b>Alexandra S. Kokka</b>	<b>Project Number</b> <b>J1403</b>
<b>Project Title</b> <b>Studying the Effects of Stress and Nutrition on the Growth Rate of Mice</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My goal was to determine if placing mice in varied environments and different diets would affect the weight gained or lost. <b>Methods/Materials</b> Twenty-four mice were placed in four cages with six mice per group. Groups One and Two were in a night/day environment. Groups Three and Four were placed in a twenty-four hour light environment. One group from each environment was given high carbohydrate food (Frosted Flakes), while the others were given regular mouse food. I weighed each mouse individually on a triple beam balance scale every 3 days for 15 days. The results were recorded and graphed. <b>Results</b> Group Four (regular mouse food with twenty-four hour light) gained the most weight, while group One (Frosted Flakes with night/day environment) lost the most weight. Group Three (Frosted Flakes with twenty-four hour light) lost the second most amount of weight, while group Two (regular mouse food with night/day environment) gained the second most amount of weight. <b>Conclusions/Discussion</b> In conclusion, I believe that group Four gained the most weight because their diet was adequate and the 24 hour the light exposure may have stressed the mice. From my previous year project, I found that stress causes weight gain in mice. I also believe that group One lost the most weight because Frosted Flakes doesn't have the proper amount of fat, nutrients, and vitamins needed to produce a balanced diet for mice. Due to their high metabolism, the effect was dramatic.	
<b>Summary Statement</b> My project studied the importance of proper nutrition to mammalian growth and how stress can also affect growth.	
<b>Help Received</b> Father helped assemble the board. Teacher helped with graphs.	