



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Alexandra S. Kokka	Project Number J1403
Project Title Studying the Effects of Stress and Nutrition on the Growth Rate of Mice	
Abstract Objectives/Goals My goal was to determine if placing mice in varied environments and different diets would affect the weight gained or lost. Methods/Materials 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. Results 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. Conclusions/Discussion 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.	
Summary Statement My project studied the importance of proper nutrition to mammalian growth and how stress can also affect growth.	
Help Received Father helped assemble the board. Teacher helped with graphs.	