



**CALIFORNIA STATE SCIENCE FAIR  
2005 PROJECT SUMMARY**

<b>Name(s)</b> Melinda S. Speckmann	<b>Project Number</b> <b>J0336</b>
<b>Project Title</b> <b>Comparing Diets to See Behavioral Changes in Mice</b>	
<b>Objectives/Goals</b> How effective are different diets if tested on mice?	
<b>Abstract</b> <b>Methods/Materials</b> mice,cages,pine shavings,bottle caps,steak, hamburger, salami, chicken, turkey, hot dog,celery, lettuce, carrot, green beans,pear, cherry, apple,high fiber cereal or grape nut flakes,water,camera,pad of paper, pencil, clock, plates,gram/ounces scale,measuring spoons,knife,Cutting board,Duck tape,wood	
1. Put pine shavings into cages. Then tape a piece of wood down the center of each cage to create a wall; 2. Then put 2 mice into each cage one on each side of the wall; 3. Then make a list of what to feed the mice; 4. Then cut the food and measure it with the spoons on a cutting board. The Atkins should get a vegetable and 2 types of meat and the Nutritional mice should have a type of cereal, vegetable, fruit (sometimes), and meat. Each mouse gets their own amount of food; 5. Put each mouse's food on one of the plates; 6. Put the two nutritional plates with the two nutritional mice and the two Atkins plates with the two Atkins mice; 7. Then fill each bottle cap up with water and put it on each plate; 8. Weigh the mice on the gram/ounce scale one at a time and record their weight; 9. Wait 15 minutes for the mice to settle and the watch them for about 10-15 minutes. Record what happens on the pad of paper; 10. Feed them either twice or once everyday, depending on how much they eat. Weight the mice every other day and clean the cage every other day. Do experiment for a month.	
<b>Results</b> The only weight change my mice showed was the growth of one baby nutritional mouse, who weighed .5 ounces/14 grams. The mice remained 1 ounce/28grams the rest of the experiment. The Atkins mice started fighting with each other, we then separated them. Males were basically aggressive and females were very passive.	
<b>Conclusions/Discussion</b> The sex difference of my mice caused problems with the results of the behavior. The problem with the mice not having a weight change was due to their metabolism and their genes and the fact that mice don't over eat. With the research I found out, even though it didn't show in my experiment I can say that the Atkins diet is a bad diet because of the risks involved of the heart. The results of my initial testing were inconclusive causing me not to be able to know if my hypothesis was right or wrong. The questions this project did make me think of were, why and how do mice not gain weight due to the gene and protein perilipin.	
<b>Summary Statement</b> Testing the Atkins diet and a Standard Food Pyramid diet on white feeder mice to see weight and behavior changes.	
<b>Help Received</b> My mom helped clean the mice cages; Mrs. Thorburn (science teacher) helped check my project when I was done; Mrs. Kaur (super visor) is helping me with guidelines for state.	