



**CALIFORNIA STATE SCIENCE FAIR  
2010 PROJECT SUMMARY**

<b>Name(s)</b> <b>Hannah C. Lee</b>	<b>Project Number</b> <b>J2413</b>
<b>Project Title</b> <b>Tasty or Deadly</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of my experiment to determine if different amounts of Monosodium Glutamate to effects the heart rate of daphnia. My hypothesis is that the daphnia's heart rate will increase as the Monosodium Glutamate increases because MSG causes the taurine, what helps regulates the heart rate, to not function properly. <b>Methods/Materials</b> To begin the experiment, I placed one of the daphnia under the microscope and counted its heart rate for twenty seconds. After recording my data I placed two drops of a solution containing five grams of Monosodium Glutamate and 300 mL of bottled water with a pipette, and let that set for thirty seconds. Then I counted the heartbeats of the same daphnia after the thirty seconds for twenty more seconds. After writing down the data, I tested fifteen more daphnia the same way. Then I took fifteen more daphnia and tested them the same way but with a solution containing ten grams of Monosodium Glutamate and 300 mL water. Following that I tested fifteen more daphnia in that way but with a solution of fifteen grams of Monosodium Glutamate and 300 mL water. <b>Results</b> In the end, the average difference of heart rates before and after the solution with five grams of Monosodium Glutamate was -19.8 beats per minute. For the solution containing ten grams of Monosodium Glutamate the daphnia's heart rate got faster by 25 heart beats per minute. And finally for the solution containing fifteen grams of Monosodium Glutamate the heart rate got faster by 132 heartbeats per minute. <b>Conclusions/Discussion</b> My hypothesis stated that the daphnia's heart rate would increase with the more Monosodium Glutamate that was added was supported in this experiment. Slowly as the Monosodium Glutamate was increased the daphnia's heart rate started beating faster and faster, which concludes that there might be some serious side effects to having Monosodium Glutamate in commonly eaten foods.	
<b>Summary Statement</b> The objective of my experiment to determine if different amounts of Monosodium Glutamate to effects the heart rate of daphnia.	
<b>Help Received</b> Science teacher helped with grading papers, staying after school while I'm doing the project, ordering daphnia, Mother bought supplies for board, Language Arts teacher graded research report	