



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Alyah Kanemoto	Project Number S1720
Project Title The Effect of a Neurotoxin on Planarian Eye Receptor Regeneration	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of my experiment was to see the effect of Monosodium Glutamate (MSG) on the rate of planarian eye receptor regeneration.</p> <p>Methods/Materials I used 75 planaria for 3 weeks of experimentation, and I used 25 planaria each week. I performed the serial dilution procedure in order to obtain my concentrations of MSG. The next procedure I performed was the cutting procedure; in this procedure I identified the planarian eye receptors and auricles and decapitated the head of each planarian. Lastly, in order to test the planaria eye receptors I performed a phototaxis procedure, in which I gave each planarian 90 seconds to cross to the dark side.</p> <p>Results The results of my experiment did not entirely correlate with my objective. Based on my daily phototaxis procedure, I was able to identify that MSG was having some effect on the planarian eye receptor regeneration. Most of my control planarian moved away from the light like they're supposed to, a negative phototaxis response. In contrast, the planarian concentrated with MSG had movement in both directions, a positive and negative phototaxis response. The control and concentrated planarian's observed movement that indicated that MSG is having some effect on the planarian's eye receptor regeneration. After each set of data, the number planarian that died showed the survival rate of each concentration. After analyzing my data, I was able to narrow down my concentrations with that information I hope I'll be able to have more accurate data.</p> <p>Conclusions/Discussion Based on my results, it is clear that MSG effected the planarian eye receptor regeneration. However, it did not completely support my objective; it did in the sense I was able to identify deformity in the highest concentration(s) but I was unable to understand how the planaria were being effected by MSG at a molecular level, my hypothesis. My objective was not completely achieved on the effect of MSG on the rate of planarian eye receptor regeneration due to the large amount of variables such as: my method of measurement, inconsistent incisions, temperature controller problems, and exposure to lighting at unnecessary times. Because my objective was not fully achieved, it was inconclusive. In the future, I plan on redoing my experiment. I will modify my procedures and narrow down the number of variables in the hopes of getting supportive and conclusive data.</p>	
Summary Statement The effect of Monosodium glutamate on the rate of planarian eye receptor regeneration.	
Help Received My and dad for mom for support, my uncle for guidance, and Mr. Center for providing materials.	