



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

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Project Title When Half a Worm Is Not Enough, Year 2: A Planaria's Regeneration and Growth Rate under Different Magnitudes of Light	
Abstract	
Objectives/Goals If I expose Planaria to either complete darkness, bright light, or naturally occurring light, will the amount of growth and regeneration be impeded?	
Methods/Materials I ordered approximately 60 Planaria. I placed the five Petri dishes that were being affected by bright light underneath a lamp which remained on the entire time. I placed the dark Petri dishes under a shoebox in order to prevent light from entering. I immediately placed the Planaria in a metal pan with spring water. I fed them a yolk of an egg the size of a pea. I filled each Petri dish with 1/2 cup spring water and one by one bisected 45 of the Planaria. Each cut was made below the nucleus. I took the measurements of each part of the bisected Planaria and the whole Planaria on Day 1. I placed lids on each dish to prevent evaporation. Each day for 2 weeks I changed 1/2 of the water in each Petri dish by extracting 35 mL using the baster and replacing it with 35 ml of fresh water. I also measured each part and whole Planaria and recorded them. To measure the Planaria, I used an instrument called a micrometer caliper. I used tabletop magnifier with a light as well as a desk light. I counted the total number of full Planaria in dishes containing bisected Planaria to see if any had regenerated completely. #60 Planaria#Ice#Scalpel#Spring water#15 shallow containers with lids#Micrometer Caliper#Eyedropper#Tweezers#Table Magnifier#Hardboiled eggs#Cooking Baster#Labels#Two shoe boxes# Light Source	
Results The Planaria in the constant light had the greatest growth, however, they had a slower regeneration rate than the planaria in the natural light. The Planaria in the darkness had the slowest regeneration rate and the least growth out of all three. The natural light had the fastest regeneration rate and a normal growth rate.	
Conclusions/Discussion The growth of the Planaria when under constant light could be attributed to the fact that they were always moving. The light sensors on they heads allow them to move and see and because the Planaria in the dark had no light they could not move which resulted in them doing nothing for two weeks. The natural Planaria may have had the best regeneration rate because they were living in their adapted conditions and they were simply reproducing whereas the light and dark lights caused the Planaria to adapt to new conditions.	
Summary Statement My project was to determine if different magnitudes of light such as light, dark, or natural, impede or promote Planaria regeneration and growth rates.	
Help Received Mother helped provide supplies for poster; father helped provide supplies for experiment.	