



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

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| Name(s) Angelina J. Taylor | Project Number J2214 |
| Project Title Planarian Regeneration | |
| Objectives/Goals For this year's science fair project I chose to investigate if after being cut in half will the top half or bottom half of a planarian worm regenerate faster. The reason I chose this topic is because we have been learning about flatworms in science class and I found it fascinating that planarian worms regenerate. The top and bottom half may grow back at different speeds and I hope that through this project I can find out which half will regenerate faster. | |
| Abstract Methods/Materials Take 6 planarian worms and cut them in half crosswise. Put each of the halves in their own labeled petri dishes. Put the petri dishes in the refrigerator. Take the petri dishes out each day and measure the planarian worms and change the water. Return the petri dishes to the refrigerator. | |
| Results Two of the head portions died early on in the experiment. Starting on day 5, I noticed the cut portion of the bottom began to round out inward toward the body. On day 13 a head began to grow from the cut portion. On the growth chart for the top and bottom portion you will see that the top portion achieved 8mm on day 9 while the bottom half did not reach 8mm on average until day 13. | |
| Conclusions/Discussion My hypothesis that the top portion would grow back faster was correct based on my 14 days of measurement. The top portion grew to 8mm in only 9 days, while the bottom portion took 13 days to reach 8mm. However, my hypothesis was also partially incorrect in that the bottom portion regrew the head faster than the top portion regrew that tail. I noted that the bottom portion showed signs of head regrowth starting at day 5 and fully showing at day 13. When I concluded the experiment on day 14, the top portion still had not shown signs of re-growing a tail. If I would take this experiment farther, I would use more worms and measure it for a longer period of time. This experiment can be useful in the real world by gaining a better understanding of the regenerative process and doctors might find ways to heal people better. | |
| Summary Statement After a Planarian Worm is cut in half, will the Top Half, containing the brain, or the Bottom Half, containing the tail, regenerate faster? | |
| Help Received I received guidelines for the project from my teacher and my dad bought materials. | |