



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Cassandra (Cassie) C. Fausel	Project Number 22718
Project Title Rad Worms: Will Radiation and Different Vitamin Solutions Change Planaria's Regeneration?	
Objectives/Goals My previous experiments showed that vitamins by themselves and in combinations helped Planaria regenerate. Now I am testing whether Radiation and different Vitamin solutions will change the regeneration process. I think that the Radiation will stunt the Planaria's regeneration and the Vitamins will protect the Planaria from the damage that the radiation might cause. Abstract My previous experiments showed that vitamins by themselves and in combinations helped Planaria regenerate. Now I am testing whether Radiation and different Vitamin solutions will change the regeneration process. I think that the Radiation will stunt the Planaria's regeneration and the Vitamins will protect the Planaria from the damage that the radiation might cause. Methods/Materials I used X-ray radiation and radiated the Planaria using 2 different doses and placed them in four groups of Vitamin solutions: A & C, A & E, C & E and A,C & E. Within each Vitamin group I had 4 controls which contained Planaria that had not been radiated. I also had a No Vitamins group which contained only radiated Planaria. The Planaria were cut into head and tail pieces. Using a log sheet to measure the head and tail pieces, measurements were performed and logged weekly. Results All Planaria in solutions containing Vitamin C died. Planaria in Vitamin solutions A & E survived radiation. Planaria without Vitamins survived radiation. In the No Vitamin solution, Planaria that were exposed to Radiation grew better than the Control without Radiation. Planaria in Vitamin A & E had regeneration that was similar in the radiation and control groups. Planaria in Vitamin A & E solutions, both control and radiation regenerated more than Planaria in the No Vitamin solutions. Vitamin C was toxic to Planaria and all specimens died the conclusion is Radiation did not affect regeneration. Vitamin solution A & E showed better growth regeneration in the Control and Radiation specimens. Conclusions/Discussion Although Radiation did not affect the Planaria, one of the Vitamin combinations, Vitamins A & E showed better growth regeneration in the Control and Radiation than the Control group No Vitamins specimens. This proves that Vitamin A & E can improve Planaria's regeneration. This concludes that Vitamin A & E can improve Planaria's regeneration.	
Summary Statement My project is testing to see if Radiation and different vitamin solutions change Planaria's regeneration.	
Help Received Dr. Monica Khanna and the staff at Peter Lake Radiation Center, my Dad worked with me throughout the project and answered many questions, 2 friends who assisted with weekly measurements and my Mom who helped with my board.	