



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Sean I. Atamdede	Project Number J1501
Project Title Animal Magnetism: How Does Magnetism Affect the Rate of Regeneration in Planaria?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The use of magnets is believed to increase the rate at which tissue damage heals. Planaria are known for their documented ability to regenerate when cut into pieces. My goal is to determine if increasing magnetic strength will increase the rate of regeneration in planaria.</p> <p>Methods/Materials Twenty four planaria were divided into 6 groups of 4 each and each group placed in a sectioned Petri dish with spring water. Sixteen planaria (groups 1 through 4) were bisected horizontally, halfway between head and tail. Group 1 was exposed to no magnets, and groups 2 through 4 exposed to increasing magnetic strengths. Groups 5 and 6 were left whole, with group 5 exposed to no magnets and group 6 exposed to the maximum strength of neodymium magnets used in this experiment. They were observed and measured over three weeks and results compared. The spring water was changed every three days and the dishes kept in a darkened cabinet to provide a clean and natural environment for the planaria.</p> <p>Results The bisected planaria all regenerated new heads and tails but at rates that decreased with the increasing magnetic strengths. The halves with an intact head regenerated a new tail faster than the halves with an intact tail regenerated a new head. The whole planaria exposed to the strongest magnetic strength grew much more slowly than those exposed to no magnets.</p> <p>Conclusions/Discussion It appears that magnetism actually decreased the rate of regeneration in the bisected planaria as well as the rate of growth in the intact planaria.</p>	
Summary Statement I used increasing strengths of magnets on bisected and whole planaria to test the popular belief that magnetism can increase the rate of tissue regeneration and wound healing.	
Help Received My mom took pictures of me dissecting a planaria specimen and with my completed set-up of my project.	