



**CALIFORNIA STATE SCIENCE FAIR  
2008 PROJECT SUMMARY**

<b>Name(s)</b> Aaron F. Crasnick	<b>Project Number</b> <b>J1509</b>
<b>Project Title</b> <b>Will Higher Concentrations of Aloe vera Quicken the Regeneration of Planaria?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> I tested to see whether higher concentrations of Aloe vera would speed up the regeneration of planaria. My hypothesis was that although Aloe vera would quicken the regeneration, higher concentrations of Aloe vera would not make any difference in regeneration time.</p> <p><b>Methods/Materials</b> Aloe vera solutions of 0%, 10%, 20% and 30% were added to Petri dishes, 3 dishes for each concentration. The planaria, 3 for each dish, were cut under magnification, exactly in the middle. Six worm fragments (3 heads and 3 tails) were added to each Petri dish containing the varying solutions of Aloe vera. The planaria were observed daily for signs of regeneration (the rounding of the cut end and directional movement in the tail end). The length of each fragment was measured with each water change, every 3 days.</p> <p><b>Results</b> The control group, or that in the 0% Aloe vera solution, took nearly two weeks to regenerate, while the planaria in the 10% solution took 8 days to do so. The planaria in the 20% Aloe vera solution did not regenerate faster than those in the 10% solution, and over one-half of the 20% solution planaria died. All planaria in the 30% Aloe vera solution died.</p> <p><b>Conclusions/Discussion</b> In conclusion, my data revealed that Aloe vera, in small amounts, has a positive effect on the regeneration of planaria, speeding up regeneration time by about 3 days. More importantly, there was no significant difference in regeneration time between planaria in the lower and higher concentrations of Aloe vera. The higher concentration of Aloe vera appeared to be toxic to the planaria.</p>	
<b>Summary Statement</b> My project investigated whether higher concentrations of Aloe vera would speed up the regeneration of planaria.	
<b>Help Received</b> My parents helped me buy the materials for the project, and my mother helped me brainstorm ideas when all the planaria started dying.	