



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Jaclyn Juarez	Project Number S2206
Project Title Skin Regeneration: Aloe Vera vs. Neosporin (Using Planaria)	
Abstract Objectives/Goals For a long time natural substances have been used to cure different types of injuries. With the evolution of medicine, injuries are now being cured with chemically produced substances. The question is, however which substance works faster to cure a minor cut on the skin, aloe vera or Neosporin/Antibacterial ointment? This experiment is designed to answer that very question. Methods/Materials I used planaria as a substitute for skin in order to evaluate skin regeneration according to two different methods. The first method I used to enhance the rate of skin regeneration was a natural substance known to help cure cuts, aloe vera. The second method I used was a chemically produced substance, neosporin. I applied both methods on separate planaria that I cut in half to compare the growth of each planaria. Whichever group of planaria with the specified method grew the most meant that the particular method helped skin regenerate better. All test trials were completed from December 6-December 10 in OHMMHS Biology Laboratory Room Results The results of the experiment showed that the group of planaria that I applied Aloe Vera to grew the most. Before application, December 6th, the planaria averaged at a length of 8.3mm. After application, December 10th, I remeasured the planaria and the length had changed to an average of 13 mm. This average was significantly higher than the control group and the group that I applied Neosporin to. Conclusions/Discussion The planaria that had an application of Aloe Vera had regenerated a new body and new head; the Aloe Vera helped planaria regenerate the most over a period of 5 days. With these results, it is adequate to conclude that Aloe Vera, a natural substance, helps planaria regenerate faster from a minor cut than a chemically produced substance. If Aloe Vera regenerates planaria faster, there is reason to believe that it can also regenerate minor skin cuts better than Neosporin, a chemically produced substance.	
Summary Statement To determine whether a natural or chemically produced substance regenerates planaria the quickest in order to translate the results into human skin regeneration.	
Help Received Physiology teacher helped gather materials; English teacher revised Lab report	