



CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

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Project Title Project Planaria	
<p style="text-align: center;">Abstract</p> <p>Objectives Our experiment was to determine if the strength of Neodymium magnets would affect the regeneration of Planaria (flatworms with regenerative abilities). If the presence of the magnets accelerates the healing process of body tissue, then it being implemented would benefit all medical procedures. It would be much cheaper to implement magnets to heal wounds (cuts and bruises specifically) than to go through surgery.</p> <p>Methods We first measured the original sizes of the 40 Planaria, then we cut them in half and measured them, then we put them into eight petri dishes with one magnet strength group under every two, and after two weeks, we measured it again to find out the growth. Afterward, we compiled all the data into charts and tables, and we calculated the averages of each magnet strength.</p> <p>Results The results of the experiment showed that the Planaria that were exposed to no magnets had the most growth, with high strength in second, medium in third, and low in last. The no magnet Planaria had an average growth of 1.29 millimeters, the 60 pound pull force (high strength) Planaria had an average growth of 0.919 mm, the 36 pound pull force (medium) Planaria had an average growth of 0.769 mm, and the 11 pound pull force (low) Planaria had an average growth of 0.576 mm. Our results showed that the Planaria regeneration actually decreases when exposed to the Neodymium magnets.</p> <p>Conclusions This data helped us find out that magnetism affecting the body tissue within Planaria decreases the healing rate. We conclude that magnetic healing is not beneficial, as it actually slows the healing process of body tissue, making the idea of magnet usage to heal cuts and bruises impractical.</p>	
Summary Statement We tested whether Neodymium magnets affect the regeneration of bisected Planaria, and learnt that magnets decrease tissue growth.	
Help Received We performed and documented the experiment ourselves and our science teacher reviewed our documents.	