



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

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| <b>Name(s)</b><br><b>Brissa G. Rodriguez</b>  | <b>Project Number</b><br><br>33171 |
| <b>Project Title</b><br><b>Determining the Effects of Battery Acid on the Survival Rate of Eisenia fetida</b>   |                                    |
| <b>Abstract</b><br><b>Objectives/Goals</b><br>My objective is to determine if measured amounts of battery acid will contaminate soil enough to shorten the lifespan of the "Eisenia fetida." I believe that placing "Eisenia fetida" in soil contaminated by battery acid will decrease their survival rate.<br><b>Methods/Materials</b><br>Three Text Variables were set up by placing "Eisenia fetida" into small trays. The trays were filled with soil and moistened with water contaminated by measured amounts of battery acid. The Test Variables had ten trials in each variable. The survival rate of "Eisenia fetida" was recorded over a period of 5 days.<br><b>Results</b><br>The survival rate of "Eisenia fetida" in all three Test Variables decreased by at least 90% when contaminated with acid from single use batteries with in a couple of days. All three Test Variables showed no signs of life after only three days of exposure to contamination.<br><b>Conclusions/Discussion</b><br>Battery Acid does have an effect on the survival rate of "Eisenia fetida". Based on my experiment, the "Eisenia fetida" in all three Test Variables had died after just 3 days into the experiment. It is possible that the battery acid in the water affected the PH level of the soil which quickly decreased the survival rate of the "Eisenia fetida." The battery acid also seemed to change the appearance of the "Eisenia fetida." Many were discolored and deformed. The "Eisenia fetida" in the Control Group however, showed no abnormalities such as this. Batteries are filled with harmful, toxic substances that contaminate our soil and negatively affect our environment. Incorrect disposal of batteries could possibly have a tragic effect on the earth in which we live. |                                    |
| <b>Summary Statement</b><br>The purpose of my science project is to investigate the ways in which battery acid affects the survival rate of Eisenia fetida.   |                                    |
| <b>Help Received</b><br>Mother helped put project board together  |                                    |