



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Adrian M. Mendoza	Project Number 33203
Project Title Investigating the Toxicity Level of Pollutants on Plant Cells	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to determine which pollutant is the most harmful to plant cells. I believe that the gasoline will damage the plant cells in the celery the most.</p> <p>Methods/Materials I cut 15 65ml celery stalks and mixed 300ml of water and 2.5ml of red and black food coloring. I then put the mixture in a plastic container and put the stalks in the container. I measured and graphed how much water each stalk absorbed. Then Put 15 stalks in the variables for 30 minutes then rinsed all 15 stalks with tap water. I repeated this for each variable: gasoline, acid rain, detergent, and motor oil, and then put them in the dyed water mixture for 12 hours. I lastly measured and graphed my results.</p> <p>Results The Gasoline proved to be the worst to plant cells of all variables and is not healthy for plants, while the detergent proved to be the least harmful out of the variables.</p> <p>Conclusions/Discussion After completing my investigation on the toxicity level of my variables, gasoline, acid rain, detergent, and, motor oil, I found my hypothesis was correct. My hypothesis was that the gasoline was going to be the worst to the cells. My hypothesis was incorrect for the acid rain and for the detergent. The detergent was the best for the cells where the acid rain was the second to last. While some of the pollutants I tested were less harmful than others to the plants none of them were beneficial.</p>	
Summary Statement My project was about finding out which pollutant is the most harmful to plant cells.	
Help Received My parents Mr. Nelson.	