



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Brandon T. Moreno	Project Number J1114
Project Title Eco-Friendly Car Wash Detergent vs. Regular Car Wash Detergent: Which Is Better for Our Environment?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective is to analyze if environmentally friendly (eco-friendly) car wash detergents are less harmful to the environment than regular car wash detergents. The project analyzes the effects of these products on plant development to determine their environmental impact. I would expect that watering plants with a solution of eco-friendly car wash detergent would develop taller plants with more flowers and with better color quality than plants watered with a solution of regular car wash detergent.</p> <p>Methods/Materials Nine Impatiens plants were tested using solutions of eco-friendly car wash detergent and regular car wash detergent. plants 1-3 were watered with an eco-friendly solution, plants 4-6 were watered with a regular solution and plants 7-9 got just water (control variable). Plants were watered every four days for one month. Plant height, flowers bloomed, and color quality were measured after each watering. Measurements were averaged and graphed to show results over time.</p> <p>Results The plants watered with eco-friendly solution performed better than plants watered with regular solution. Plants watered with eco-friendly solution grew 3cm, bloomed 4 flowers and had good color quality. Plants watered with regular car wash solution decreased in height by 1cm, had less flowers in the end with many brown and dying petals.</p> <p>Conclusions/Discussion The results showed that plants watered with eco-friendly car wash solution grew more in height, developed more flowers and had better color quality compared to plants using regular car wash solution. The results proved that eco-friendly car wash detergents can be less harmful to the environment than regular car wash detergents. The environmental impact of cars being washed with eco-friendly products is huge - as many as 30% of car owners wash their own cars. This is a big opportunity to raise public awareness and make sure people use the right product to protect our environment.</p>	
Summary Statement My project tested whether using eco-friendly car wash detergent is less harmful to our environment than using regular car was detergent	
Help Received mom helped purchase materials and develop the pictures	