



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Alexandra J. Vaughan	Project Number J0713
Project Title The pH Problem	
Abstract Objectives/Goals By adding vinegar to different types of soil, which soil will change in pH level the most? Methods/Materials Materials: Digital pH meter, pH calibration liquids, 2.268 kg each of diatomaceous, alkaline, compost and sandy soil, car and driver, (16) 350 mm cups, (5) 49.2 Litre trash bags, (2) shovels, 3.7843 litres of water and Vinegar, (4) clean stirring spoons, (1) 150mm cup, (2) 150mm bowls, (1) 250mm cup, (1) 2050mm cup Methods: After collecting the materials, I calibrated my pH meter, then I added 0.1183 L of soil to each 350 mm cup. Next, I added the same amount of water. To get my base, I took the pH of each cup. Then I mixed 0.4732 L each of vinegar and water together to get a 50% solution. I then added the solution to four (4) new cups. I then took the pH of the cups to get the change. After that, I repeated the process with 25% and 75% solutions. Finally, I recorded and charted the results. Results The highest change in pH was the sandy soil, then the alkaline soil, followed by compost and ending with diatomaceous soil. Conclusions/Discussion My hypothesis was proven incorrect. The alkaline soil had the highest change. My hypothesis, however, was correct because the soil with the highest alkalinity had the largest change.	
Summary Statement My project is about measuring pH change in different soil types when acid is added.	
Help Received Father drove me to get different soil and Mom helped calculate the results.	