



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Nicholas K. Wang	Project Number J0817
Project Title How Does the Topography of a Hill Affect Water Erosion?	
Abstract Objectives/Goals Find out which topography is most effective in reducing water erosion. Measure the amount of water erosion in a soil filled tray using different types of topography. Each type of topography is tested using the same slope, similar soil density, same water flow rate and running water down the slope for the same amount of time. Methods/Materials To conduct the experiment, I set up a water erosion measurement station. This station has a water container stand which I can pump water through a 3/4# pvc pipe onto a soil filled aluminum tray tilted to approximately 1 in 3 slope. The top surface of the soil tray is graded with different topography I will be testing. At the lower side of the tray, a fabric is placed below the tray to collect eroded soil that run down with water. Water is drained from the soil sample. The soil sample is then weighed on a gram scale and recorded. 4 types of different topography and 1 control topography are tested. Each type of topography is tested 3 times. Results The weights of the eroded soil of different types of topography are measured. The average weight for the control type topography (flat) is 248g. It is higher than other types of topography except the diagonal checkerboard topography. The steps topography has the lowest weight at 104.7g. Conclusions/Discussion Topography does affect water erosion. The steps topography is the most effective in reducing water erosion. The results of my experiment show this type of topography has the least amount of erosion. The curvy topography has the second best result. The results of my experiment could be used to generalize that by grading the naturally steep slope with some type of topography, it would help to reduce the effects of water erosion.	
Summary Statement Study what type of topography is most effective in reducing water erosion on a hill.	
Help Received Dad help conduct experiment, Mom help write notebook and Mr. Hillman lent me a gram scale.	