



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Taylor A. Davis	Project Number J1111
Project Title The Effects of Acid Rain on Roofing Materials	
Abstract Objectives/Goals Objective: The problem that the experimenter investigated was the effects of acid rain on residential roofing materials. The experimenter hoped to discover that clay tiles are the tiles that would be least affected by acid rain. The experimenter's hypothesis was that all of the roofing materials would be affected by the acid rain. But the clay tiles would be the least affected. Methods/Materials Materials and Methods: The experimenter used vinegar to simulate acid rain and tested various types of roofing tiles in solutions with a pH of between 5.0 and 4.0. The tile samples were weighed and compared to a color chart before and after exposure to the acid rain. The vinegar solution was measured using a pH pen before and after the tiles were immersed. Each test was performed three times to simulate repeated acid rain exposure. Results Results: The experiment showed that clay and concrete tiles neutralized the acid rain solution better than the other tiles. However both clay and concrete showed a significant change weight and color which was not measured in the other tile samples. Conclusions/Discussion Conclusions: Although both clay and concrete performed better than the other three roofing materials, concrete seemed slightly more durable than clay, proving the hypothesis to be incorrect.	
Summary Statement The effects of acid rain on residential roofing materials	
Help Received Gradmother help do trials; Mother helped design backboard	