



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Deanna N. Cunningham	Project Number J0310
Project Title Preventing Hurricane Damage: Stilt Homes Put to the Test	
Abstract Objectives/Goals The objective is to find a stilt home design that will suffer the least damage in a hurricane. Methods/Materials The materials used were a hose, hose nozzle, ruler, clay, coffee stirring sticks, hot glue sticks, hot glue gun, pennies, duct tape, topsoil, scissors, rocks, and cardboard. Construct a honeycomb, cross-bracing, pyramid, and control structure. Test the structures against a hose at 20, 15, 10, 5, and 0 cm away from the structures. Record the number it will receive on the Scale of Damage. Results The cross-bracing structure had the least damage. Up next was the pyramid structure which had fairly similar results when compared to the cross-bracing structure. Damage wise, the control structure was second to worst, and then came the honeycomb structure. The amount of damage to the honeycomb structure was very close to the control structure. Conclusions/Discussion The cross-bracing structure did the best because of the triangle shapes formed within the design. It makes the structure very strong due to its ability to resist downforce and cross-pressure. Also, since cross-bracing can be repeated throughout the length of the stilts, it can make the building stronger.	
Summary Statement A honeycomb, cross-bracing, pyramid, and control structure were tested to find the strongest stilt home design.	
Help Received Father assisted throughout the project and provided supplies; John Blake gave ideas on structures to test and ways to fix test issues; Dr. Sheehan answered physics questions; Riley Neal answered questions on structures; Ms. Rosichan reviewed entire project and helped formulate the question.	