



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Phoebe N. Kellogg</b>	<b>Project Number</b> <b>J0313</b>
<b>Project Title</b> <b>How Model Houses Made of Different Materials Resist Earthquakes and Wind</b>	
<b>Abstract</b> <b>Objectives/Goals</b> This experiment was conducted to understand how different materials withstand problematic weather conditions and which materials would be ideal for what type of environment. <b>Methods/Materials</b> I made 60 small, simple, four wall houses out of different materials (20 of each kind). The combinations of materials I used were brick and grout, straw and string, and wood and nails. I then tested ten of each type on a homemade shake table and the rest against a leaf blower to see how they would hold up. <b>Results</b> When tested against wind, Brick and grout held up the best, and straw and string only slightly did better than wood and nails. In the earthquake experiment, however, straw and string and wood and nails performed equally well, above brick and grout. <b>Conclusions/Discussion</b> I wanted to know if straw and string, which is viewed as a deficient material combination traditionally, could hold up against more commonly used materials, as it is a cheaper resource to build with. From my research, I have found that, yes, it can hold up against these other materials and it may be something to consider incorporating into smaller or poorer countries building plans.	
<b>Summary Statement</b> I tested small houses made of different materials against different weather conditions.	
<b>Help Received</b> My father helped me to build houses and perform my trials, while my friends helped wiht some of the house construction.	