



**CALIFORNIA STATE SCIENCE FAIR  
2017 PROJECT SUMMARY**

<b>Name(s)</b> <b>Ellie A. Wood</b>	<b>Project Number</b> <b>J1135</b>
<b>Project Title</b> <b>A Cure for the Common Flood</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Are light weight, or absorbent materials more effective to prevent flood rain water damage than traditional heavy sandbags?</p> <p><b>Methods/Materials</b> Hurricane tape, Sponges, Pipe insulator for 1# pipe, Sand bag (burlap bag), Sand bag (plastic burlap), Wire, 5 gallon bucket, garden hose Shovel, level, Water</p> <p><b>Results</b></p> <p>Test #1: Plastic Sandbag: I observed that the plastic material sand bag works well, but between two sandbags there was a small amount of seepage which is approximately 4" wide. Permeable Burlap Sandbag: I found that the burlap leaks between two sandbags approximately 3" wide and at a second location between two sandbags a small trickle of seepage occurred. Sponge: The sponge material was a catastrophic failure. The sponge disadheres from the tape and allowed water to pass. Insulator Tube: The insulator tube worked well and had no seepage through any part of the water barrier.</p> <p>Test #2: Plastic Sandbag: After adjusting for the second test I found only one seepage between one sandbag measuring about 1.5 inches wide. Permeable Burlap Sandbag: At the second test I found a small seepage which was 3 inches wide that occurred between two sandbags. Sponge: The sponge material was a catastrophic failure. The sponge disadheres from the tape and freely allowed water to run down the driveway. Insulator Tube: In the second test, I found some seepage because of the tape. Although I used waterproof tape, the water still permeated through the tape and created five (5) 1 inch seepages.</p> <p>Test #3: Insulator Tube: To make sure that the insulator tube clearly worked, I tested it one additional time to be sure it was just the tape that did not withhold the water and it worked!</p> <p><b>Conclusions/Discussion</b></p>	
<b>Summary Statement</b> My project tests lightweight alternative materials to divert rainwater in comparison to the common sand bags.	
<b>Help Received</b> My teacher Mr. Chris Thibodeau.	