



# CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

<b>Name(s)</b> Claire A. McClain	<b>Project Number</b> <b>J2120</b>
<b>Project Title</b> <b>Controlling Mold on Untreated Drywall with Common Household Products</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My objective was to determine what single, common, household product kills or impedes mold growth effectively and efficiently. I hypothesized that the 70% isopropyl rubbing alcohol would work the best at killing or impeding mold growth. The independent variable is the solution used to test the mold growth. The dependent variable is the growth of mold.</p> <p><b>Methods/Materials</b> Introduced mold samples, grown from a pumpkin, to ten 4cm x 4cm squares of untreated drywall contained in Petri dishes and moistened each with bottled drinking water. One gram of each dry substance (baking powder, baking soda, salt, borax, and sugar) was dissolved in 50 mL of bottle drinking water. After the mold grew for 72 hours, I introduced 3mL of each solution of baking powder, baking soda, salt, borax, sugar, rubbing alcohol, hydrogen peroxide, distilled white vinegar, and lemon juice to the mold (one solution per Petri dish). I observed their reactions over a 48 hour period by measuring the mold specimen and recording my results at 24 hour intervals.</p> <p><b>Results</b> Rubbing alcohol worked the best at impeding mold growth. Some of the other products that did not work as well, may have worked better in combination with other products or in different physical states, as suggested by my research.</p> <p><b>Conclusions/Discussion</b> My conclusion was that the 70% isopropyl rubbing alcohol worked the best at killing or impeding mold growth. This experiment was a good place to start in finding a cost effective and efficient household product that kills or impedes mold growth. Further experiments could be conducted using different concentrations, different combinations of products and different physical states. Finding the right mixture of these household items could lead to an effective and easy to use product, since these items are typically found in most homes.</p>	
<b>Summary Statement</b> My project is about what common household product is the most effective at impeding mold growth on untreated drywall.	
<b>Help Received</b> Mother supervised the cutting of drywall and handling of mold specimen. Father advised me on scientific methods. Ms. Thacker and Mr. Martinez (school science teachers) provided guidance and equipment for my project.	