



**CALIFORNIA STATE SCIENCE FAIR  
2012 PROJECT SUMMARY**

<b>Name(s)</b> Nicholas M. Clarksean	<b>Project Number</b> <b>J2112</b>
<b>Project Title</b> <b>Open and Shut: Single vs. Double Paned Windows</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this experiment was to see if the addition of a second pane of glass would lower the temperature of the glass when subjected to a heat source. <b>Methods/Materials</b> Using two pieces of equally cut glass, the first piece of glass was subjected to a heat lamp for five minutes. The temperature of the glass was recorded by use of a digital thermometer taped to the glass. After a cooling off period, an additional piece of glass was sealed with duct tape on top of the glass separated by the use of four one inch pieces of wood in each corner. After subjecting both pieces of glass to the heat lamp, the temperature of the glass was then recorded. <b>Results</b> The addition of a double pane of glass did reduce the temperature of the bottom piece of glass as compared to the temperature of the single piece of glass subjected to the heat lamp. <b>Conclusions/Discussion</b> The results supported the hypothesis. The conclusion reached through this experiment is that double paned windows provide better temperatue resistance to direct heat than single paned windows.	
<b>Summary Statement</b> This project tested to see if adding a second pane of glass to a window would lower the temperature of the glass when subjected to a heat source.	
<b>Help Received</b> Father helped cut wood pieces used to separate the two pieces of glass and helped box cut out the top of the shoe box.	