



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Katie D. Walker</b>	<b>Project Number</b> <b>J1538</b>
<b>Project Title</b> <b>Is Your Insulation Best? The Effect of Insulation on the Spread of Heat from a Flame inside a Typical House Wall</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The purpose of my project is to determine if different kinds of insulation minimize the spread of heat from a flame running through a vent pipe inside a wall. I predicted that the blown-in insulation would contain heat the best. <b>Methods/Materials</b> I constructed a three-section mock wall with a vent pipe in each section. The wall had one section with no insulation, one with fiberglass insulation, and a third section with blown-in insulation. In each section, initial temperatures were recorded prior to testing. A flame from a propane torch was inserted into the bottom of the vent pipe and run for five minutes. Then, final temperatures were recorded. Three trials with four tests each were completed. <b>Results</b> The fiberglass batted insulation did the best at keeping the spread of heat minimal inside the wall. In the section with the blown-in insulation, the vent pipe got so hot that it ignited the insulation surrounding it, causing the insulation to smolder. <b>Conclusions/Discussion</b> My hypothesis was incorrect, the blown-in insulation did not do the best at minimizing the spread of heat inside the wall. The fiberglass insulation contained the heat inside the vent pipe without allowing it to spread throughout the wall section. The blown-in insulation got very hot around the pipe, ignited and smoldered. I expected the blown-in insulation to contain the heat without catching fire.	
<b>Summary Statement</b> My project is to determine if different kinds of insulation minimize the spread of heat from a flame running through a vent pipe inside a wall.	
<b>Help Received</b> My father helped me build the mock wall. Mr. Duerr helped with the graphs and charts.	