



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Amelia C. Hillier	Project Number J1914
Project Title I Bet You'll Never Guess What Puts Out Fires Best!	
Abstract Objectives/Goals My hypothesis was that the firewater would put the fire out more effectively. The problem I was attempting to solve is what is the best substance to use when putting out a fire? I plan to build a contraption that can have a fire in the bottom and liquid in the top. I will dump the liquid onto the fire to see how many dumps it will take for the fire to completely extinguish. Methods/Materials I first measured out the water and the wood. I took out 2.46 milliliters of water to add the 2.46 milliliters of soap if necessary. Then I poured the 30 milliliters of lighter fluid onto the wood after it had been placed in a baking tin. Then I placed the tin in the bottom box and lit a match. I let the fire burn for ten seconds and then poured the water into the tin on top and then pulled the lever which released the water. I repeated this until the fire was completely out. One thing I learned was that many things can be added to water to reduce its surface tension. Results It took an average of 2.4 dumps to put out the fire. Regular water took an average of 4.25 dumps before it went out. Firewater turned out to be third between Jet Dry with 2.75 dumps and Tide Detergent with 2.55 dumps. Firewater took 2.55 dumps to extinguish. Conclusions/Discussion I found that Dawn Soap mixed with water, was the best to put out a fire.	
Summary Statement How does the type of soapy substance affect its ability to put out a fire?	
Help Received My dad helped me build the fireproof box and my mom and sisters helped me measure out things during the testing. My project was approved by the firefighters at the Santa Barbara Fire Station.	