



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Emma J. Rucker	Project Number 31107
Project Title Money in Your Wallet and Fire off Your Roof	
Objectives/Goals My objective was to learn which fire-resistant roofing material was the best at insulating a home. Methods/Materials Various roofing tiles- asphalt, concrete, clay, metal, and slate- were set in direct sunlight atop a small box made of insulation material. Six thermocouples recorded the inside temperature over a period of time. Results The clay covered box had the lowest temperatures during the tests. At times it had a 120% lower temperature than its closest contender, asphalt. After asphalt, concrete had the next lowest temperatures followed by metal, then slate. Conclusions/Discussion Clay proved to be the best choice for a homeowner because of its insulating abilities in a warm environment. Slate is the worst choice because the slate box had internally high temperatures and insulated the box poorly.	
Summary Statement This is an investigation of fire-resistant, energy-efficient roofing material.	
Help Received Dr. Walt Whatley (General Atomics) provided thermocouples and DAQ system. Father helped conduct experiment.	