



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY**

Name(s) Landon Fernald	Project Number J1304
Project Title Is It Possible to Build a Fireproof House?	
<p style="text-align: center;">Abstract</p> <p>Objectives Is it possible to build a fireproof house? By using various fireproof materials I have chosen to make a fireproof house. My project is about materials used and how to build a fireproof house</p> <p>Methods I built two 1:32 scaled houses out of wood. One was left as is (wood) the other was surrounded by non-flammable materials (fireproof rapper sheet shields, fire-resistant fiber cement boards and fireproof shingles) and was able to test them both by lighting them on fire to see which house caught on fire and which house didn't.</p> <p>My independent variable is changing the structure and the dependent variable was measuring how many inches of flames. Testing controls included are temperature and lighter fuel.</p> <p>Results After building both houses to experiment on- The result was a good one as I was able to successfully gather and find materials that were fireproof and that particular house that I surrounded those non-flammable (fireproof) materials with did NOT burn. Yay!</p> <p>Testing controls included are temperature and lighter fuel. Wood = 3,6,8,inches Fireproof Raptor Heat Shields = 0 inches Fire Resistant Fiber Cement Shields = 0 inches</p> <p>This costing a homeowner: \$64,970 per 2,600 sq. ft. house \$38,970 to cover with Fireproof Raptor Heat Shield Sheets \$20,000 to cover with Fire Resistant Fiber Cement Boards About \$6,000 for the Fireproof Shingles</p> <p>Conclusions I was able to successfully build a fireproof house through my experiment and test and just the right materials. I think that this would be a VERY successful idea for contractors and developers for sure houses and communities based on how many houses catch on fire a year (374,000 a year in the U.S.) to be precise and 2,600 lives are lost from house fires a year.</p>	
Summary Statement I was able to build a fireproof house which can possibly save lives	
Help Received I was able to Build a Fireproof House!	