



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

<b>Name(s)</b> <b>Uday Chaudhary; Kinjal Govil</b>	<b>Project Number</b> <b>J1303</b>
<b>Project Title</b> <b>What Is the Effect of Using Compound Wood Boards on the Overall Flammability, Durability and Strength of the Wood Board?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives</b> The objective of our project is to create strong wood boards made of entire trees, twigs and sapwood deemed unusable as well as heartwood, the center part of the tree, that, after being glued together with different glues, would be relatively strong and durable compared to commercial boards and will be relative fireproof.</p> <p><b>Methods</b> Redwood heartwood, oak twigs, dumbbells, mold, wood glue, epoxy glue, stopwatch. Layered different woods into the mold with different glues and dried at different pressures. Put weight on the boards on until they snapped and measured the board's burn time.</p> <p><b>Results</b> Wood glue tended to bond better with all types of wood while epoxy only bonded with smooth flat pieces of wood. High pressure tended to damage wood and was worse than low pressure even if it did remove gaps. A mix of both kinds of wood had the best results because it maximized the benefits of both types of woods.</p> <p><b>Conclusions</b> This shows that the type of wood, glue and the amount of pressure in making compound wood boards does change their strengths. More studies on different types of woods, glues, and pressures could eventually lead to a compound wood board comparable to commercial wood boards.</p>	
<b>Summary Statement</b> We found that different woods, glues, and pressures change the strength of compound wood boards meaning there could be a combination that comparable to commercial wood boards.	
<b>Help Received</b> Our parents and our science fair counselor reviewed our testing methodology.	