



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Matt R. Larabee	Project Number 22860
Project Title The Heat Extractor 2002	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals By using thermal dynamics and a concentrated consolidated heat devise, I planned on increasing the efficiency of the common household fireplace.</p> <p>Methods/Materials By placing the heat extractor into a fireplace and adding certain alloys, I timed and recorded how long it takes to heat a room up and what temperature the extractor can heat the room up to. Copper tubing wx inserted into certain positions and various alterations and deterimined the thermal dynamic output.</p> <p>Results Between the heat extractor, the heat extractor w/metal sheet and the heat extractor w/consolidated appratus, the apparatus worked the best. Also this devise is very cost effective.</p> <p>Conclusions/Discussion I concluded that the more alterations added to the heat extractor, the more efficient the system was.</p>	
Summary Statement Increasing the efficiency of the common fireplace.	
Help Received Grandfather helped design the extractor.	