



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Brandon R. Johansen	Project Number J1112
Project Title The Flame Game: Which Kind of Wood Burns Faster?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of my project was to answer the question: Which kind of wood burns faster? My hypothesis was that Cherry wood would burn faster because it seemed softer than the others.</p> <p>Methods/Materials To answer my topic question, I first obtained branches from nine different types of trees (Apricot, Ash, Black Walnut, Cherry, English Walnut, Eucalyptus, Mulberry, Nectarine and Olive) that appeared to be about the same age. I also obtained matches, a stopwatch, a torch, a ruler and some bricks for my testing setup. Branches of similar diameter were cut to the same length and allowed to dry in the sun for two months. Five pieces of each kind of wood were burned by placing the wood across two bricks and placing the torch under the wood. I measured the diameter of each piece of wood, lit the torch, started the stopwatch when the wood started burning and stopped the stopwatch when the wood burned through and broke in half. I recorded the diameter and the time for each piece of wood.</p> <p>Results Since there were two variables for each type of wood (diameter and time to burn), to be able to compare the results I divided the time (in seconds) by the diameter (in inches) to get what I called a "Burn Ratio" of seconds per inch for each trial. The average burn ratio for each wood was compared, and the smaller the burn ratio, the faster the wood burned. The results of my project showed the following burn ratios: Apricot = 381; Ash = 486; Black Walnut = 420; Cherry = 440; English Walnut = 475; Eucalyptus = 435; Mulberry = 227; Nectarine = 304; and Olive = 594.</p> <p>Conclusions/Discussion My conclusions are that: (1) of the woods I tested, Mulberry burned the fastest because it had the smallest burn ratio; (2) Olive burned the slowest; and (3) my data did not support my hypothesis.</p>	
Summary Statement My project is about determining which kind of wood burns fastest between the nine types of wood tested.	
Help Received My Dad helped me obtain materials and helped me analyze the data; My Mom helped with printing.	