



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> <b>Eric J. Zagala</b>	<b>Project Number</b> <b>J1545</b>
<b>Project Title</b> <b>Heat Conductivity</b>	
<b>Objectives/Goals</b> The object of this experiment is to determine which type of metal will conduct heat the fastest: Aluminum, copper, bronze, silver nickel and steel.	
<b>Abstract</b>	
<b>Methods/Materials</b> I used five different types of metals, 1/8 inch thick. A thermometer was attached to each piece of metal. Using a propane torch as my heat source, I began to heat each piece one inch from the thermometer. Using a stop watch, I timed how long it took to register on the thermometer. I repeated this process three times with each type of metal. I recorded all results for accuracy; additionally I computed the average of the three tests.	
<b>Results</b> The aluminum conducted heat the fastest at an average of 14 seconds. The bronze was the second fastest at 16 seconds. The silver nickel averaged 19 seconds to conduct heat and appeared to be the strongest metal used in the experiment, as it did not melt or bend. The copper conducted heat, on an average of 26 seconds, however, quickly melted into a liquid like form. The piece of steel averaged 50 seconds.	
<b>Conclusions/Discussion</b> My hypothesis was correct. Aluminum did conduct heat the fastest; steel appeared to be the slowest. I predicted aluminum would conduct heat the fastest as it was the lightest. However, after my experiment and research, I learned that the weight of the metal did not determine how quickly it would conduct heat. I concluded that knowledge of metals and heat conductivity is crucial in science in the course of the development and research of technology.	
<b>Summary Statement</b> Determining which types of metals conduct heat the fastest.	
<b>Help Received</b> Dad helped with use of torch; mom helped with typing and graphing of information	