



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> <b>Dominic A. Kane</b>	<b>Project Number</b> <b>J1519</b>
<b>Project Title</b> <b>How Colors Absorb Heat</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of the project is to find out how objects of different colors absorb heat from sunlight differently. I believe that darker colors will absorb heat from sunlight faster than lighter colors. This will be demonstrated by exposing samples of different colored water to sunlight and measuring their temperature over time.</p> <p><b>Methods/Materials</b> Seven identical clear plastic bowls were filled with an identical amount of cold water. Six of the bowls of water were then colored with food coloring, to create bowls of red, orange, yellow, green, blue, and purple water. One bowl of water remained clear. A thermometer was placed in each bowl of water. The bowls of water were placed in direct sunlight from late morning until mid afternoon for three straight days, and the temperature of each bowl of water was recorded over that time.</p> <p><b>Results</b> Based on the recorded temperatures, the clear water absorbed the least amount of heat from the sunlight, while the blue water absorbed the most heat. The specific order from least to greatest amount of heat absorption is: clear, orange, yellow, red, green, purple, and blue.</p> <p><b>Conclusions/Discussion</b> In conclusion, darker colors will warm up more quickly and absorb more heat in sunlight than lighter colors. This knowledge can be useful in everyday life. For example, on a cold yet sunny day, it would be better to wear a dark colored jacket than a light colored jacket. The darker colored jacket will absorb more heat from the sunlight, and help keep the person wearing the darker jacket warmer.</p>	
<b>Summary Statement</b> My project is about determining how various colors absorb heat from sunlight differently.	
<b>Help Received</b> My mom helped me get materials. My dad helped me with the report and graphing the results.	