



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

Name(s) Elizabeth A. McGill	Project Number 35177
Project Title The Right Bright Light	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Which type of light bulb is the most environmentally friendly and energy efficient? When I go shopping for light bulbs for the house I see many kinds of light bulbs. I wonder which kind is more efficient and cost effective. The packaging all seems to say theirs are the best kind. My project helps to explain which bulb is the best based on lumens, heat lost, and cost.</p> <p>Methods/Materials In order to determine the Right Bright Light, I did three tests. The first experiment is to measure how intense the light is for each bulb such as LED, Halogen, Florescent, and Incandescent at various distances. Then the second test will compare how much heat is lost to see how much energy is being lost. The third test will measure how many kilo watts are used in 2 hours. I repeated these tests for three times each. I used a laser thermometer, light meter, and kilowatt meter.</p> <p>Results In the first test the incandescent bulb had fewer lux even though all bulbs were equal in lumens. The halogen had the greatest number of lux. In the second test the incandescent bulb had the greatest heat lost, and the bulb with least the heat lost was a led. Halogen and fluorescent were similar in the amount of heat lost. In the third test the incandescent used the most kilowatts while the led was the most efficient.</p> <p>Conclusions/Discussion The halogen, led, and florescent bulbs are all a big improvement over the incandescent bulbs. I feel that for the general population the halogen or fluorescent would probably work better due to the cost of the led bulb. Hopefully technology and manufacturing will bring down the cost of a led bulb so everyone can enjoy the Right Bright Light.</p>	
Summary Statement I compared four types of light bulbs to find out which bulb is the most energy, environmentally, and cost efficient using lumens, luxs, and kilowatts.	
Help Received Parents helped with buying materials.	