



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Asher H. Wittenberg	Project Number J1137
Project Title Which Light Bulb Is Bright but Cool?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to compare the efficiency of different types of light bulbs by testing the light and heat output of the bulb. I did this because the electricity companies are telling people not to use so much electricity and because the cost of electricity keeps escalating. Using more efficient bulbs would reduce the amount of electricity a person would use and reduce their bill.</p> <p>Methods/Materials The I tested two each of five different types of bulbs. I tested 40 watt clear incandescent, soft white incandescent, and halogen bulbs and 42 watt and 9 watt fluorescent bulbs. I did a light-emitting test and a heat-emitting test. Each test was performed 5 times and the results averaged.</p> <p>Results I found that fluorescent bulbs are the most efficient and incandescent bulbs are the least efficient. 42-watt fluorescent bulbs were the most efficient and gave off 7.22 LUX/cal. The clear incandescent bulbs were the least efficient and gave off 0.85 LUX/cal.</p> <p>Conclusions/Discussion I conclude that using fluorescent bulbs is the best choice. They are the most efficient by far and use the least electricity for the amount of light produced.</p>	
Summary Statement My experiments were designed to determine which type of light bulb is the most efficient producing the most light and the least heat.	
Help Received Father helped supervise all of the experiments for safety. Teacher helped producing graphs and data tables.	