



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Matthew G. Harbin	Project Number J1512
Project Title Ott or Not	
Objectives/Goals To determine which light bulb (150, 100, 75, 60, 40, 25 watt Incandescent, 13 and 27 watt Fluorescent or 13 watt Ott light) produces the most heat.	
Abstract Methods/Materials Materials used included 150,100,75,60,40 and 25 watt Incandescent bulb, 13 and 27 watt Fluorescent bulb and the 13 watt Ott light, a goose-neck lamp and an Ott desk lamp both angled at 44 degrees, a thermometer with Fahrenheit and Celsius readings, a non-metal 12 inch ruler, a digital timer, a notebook, a pencil, a white toweled surface to safely record measurements. I began my project by placing a white towel on a flat surface and positioning the lamp at a 44 degree angle. Each bulb was individually tested twenty times beginning with the lowest wattage. I inserted each bulb into the lamp and using a ruler I measured 12 inches from the tip of the bulb to the mercury base of the thermometer. Each test took ten minutes (using a digital timer) and the results, both Fahrenheit and Celsius, were recorded in my notebook. The thermometer was placed into the freezer for five minutes prior to each test.	
Results My experiment indicates that the 150 watt Incandescent bulb was the hottest, the 13 watt Fluorescent bulb was the coolest and the 13 watt Ott light was between the 60 watt and 75 watt Incandescent bulbs.	
Conclusions/Discussion My hypothesis was that the 150 watt Incandescent bulb would be the hottest, the 13 watt Fluorescent bulb would be the coolest and the Ott light would be between the 100 watt and 150 watt Incandescent bulbs. My hypothesis was partially supported in that the 150 watt Incandescent bulb was the hottest and the 13 watt Fluorescent bulb was the coolest, however, the 13 watt Ott light was found to be between the 60 watt and 75 watt Incandescent bulbs. If I were to do this project again, I would angle the lamp upward and somehow suspend the thermometer above it so that the heat from the bulb would flow directly to the thermometer and not build up in the lamp's head. This project would be useful for people who want the maximum light with less heat, such as people who work in an environment with limited work space.	
Summary Statement My project is a comparison of the heat produced by the Incandescent, Fluorescent and Ott light bulbs.	
Help Received Grandmother helped to type report, Grandfather helped to gather supplies and Mother helped with layout of board display.	