# CALIFORNIA STATE SCIENCE FAIR
## 2006 PROJECT SUMMARY

**Name(s)**
Christopher Chen

**Project Number**
**J0706**

**Project Title**
## Switch and Save: Can Switching to a Different Type of Lightbulb Really Save You Money?

**Abstract**

**Objectives/Goals**
My Science Fair project is about switching types of light bulbs to save energy and money. The question is "Do you really save money by switching from an incandescent to a fluorescent light bulb?" I chose my project because I wanted to find out how much money my father was really saving when he changed a regular incandescent light bulb to a fluorescent. In this project, I compared the energy usage of incandescent and fluorescent light bulbs.
The purpose of my experiment is to prove that we can save energy and money by switching a light bulb. My hypothesis was that fluorescent light bulbs would use up much less energy than incandescent light and produce the same amount of brightness and quality of light.

**Methods/Materials**
To complete my experiment and execute my project, I used a "Seasonic Power Angel", a wattmeter that measures current, voltage, and watts. I measured 60, 75, and 100-watt incandescent and fluorescent light bulbs, and recorded my data to be used in calculating the cost of energy per light bulb.

**Results**
An average household with twenty 60-watt light bulbs would save about $280 per year, 75-watt bulbs would save about $376 per year, and 100-watt bulbs would save about $516 per year.

**Conclusions/Discussion**
To make sure that the light bulbs produced the same brightness, and did not cheat buyers, I had to measure the brightness of light in each bulb. To do this, I used a photography light meter and placed it about one foot away from a small lamp. Then, I inserted bulbs and tested how many units of light coming from the bulb the light meter read. The more units of light produced by the bulb, the brighter the light was. Each bulb measured about the same amount of brightness for its equivalent.

**Summary Statement**
My project proves that switching from incandescent to fluorescent light bulbs can save energy and money.

**Help Received**
Father helped buy equipment and materials; mother and brother helped with board display