



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

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| Name(s) Rhitishah Yuva Raju | Project Number 34395 |
| Project Title Light Up Study | |
| Abstract Objectives/Goals If there are bright light and right wall paint, then I can study well because straining eyes in bad lighting can tire a person quickly and bad wall paint will absorb surrounding light that makes one not to be successful in studies. Methods/Materials I interviewed Dr and I learned the functions of the eyes and how eyes absorb light from Dr.Barathi Venkat#s interview. Took a trip to Sacramento Municipal Utility District (SMUD) meet with Engineer Connie Samla - learned about types of light bulbs. Result: chose two light bulbs: LED and fluorescent best study rooms. Also, conducted experiments with different color temperature (in Kelvin), different wall paints and how Kelvin affects light quality (lower Kelvin 2700 produces orange light, high Kelvin 6500 produce a blue light and Kelvin 4100 - neutral light. A trip to Home Depot and Sherwin Williams (talked to Jeremy - paint expert). There, I learned about Light Reflective Value (LRV); the visible and usable light reflected from a surface of a paint color. If LRV higher than 75 green color brought out. If LRV lower than 65 light dim. There is difference between Kelvin and Watt. I conducted a survey on light bulbs buying pattern. I found that 9 out of 10 people are aware and depends on watt to buy light bulbs; only 2 people aware of Kelvin. The wall paint colors I used -white, light red, dark red, light green, dark green, light blue, and dark blue. Results I found that wall paints of light green (LRV 66) or light blue (LRV 69), a fluorescent light bulb or LED light bulb, and with a Kelvin of 4100 works the best for the study room of a student to succeed. I also studied on how different color impact people#s moods. I found that white color impact kids IQ. Conclusions/Discussion The best light and wall paint for study room: 1) Type of light bulbs i) Fluorescent tube ii)Light Emitting Diode (LED) 2) Color Temperature (Kelvin) i) 4100 for fluorescent tube ii) 4000 for LED 3) Wall Paint (Color) i) Light Green | |
| Summary Statement Light Up Study | |
| Help Received Parents watch electrical safety usage and drove trips | |