



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Nikole M. Ankrom	Project Number J1601
Project Title Growing Plants under Different Types of Light	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this experiment was to determine if different types of light affects the growth of plants. It was hypothesized that if a plant is grown under a light that contains lots of red and blue light (like sunlight) it will grow taller and faster than a plant grown under light that contains some red and blue light (like fluorescent light), and a plant grown under light that does not contain red or blue light (like black light) will be the least healthy out of the three.</p> <p>Methods/Materials Three types of plants were chosen: snapdragon, cabbage, and onion. A seedling of each type of plant was placed under one of the three different types of light: sunlight, fluorescent light, or black light, for a total of nine plants. The plants being grown under sunlight were placed on a windowsill which received direct sunlight for most of the day. The plants which were grown under fluorescent light were placed in a closed closet with a fluorescent light. The light was on a timer to turn on at sunrise and turn off at sunset. The plants that were being grown under a black light were treated in the same fashion. Each plant received equal amounts of water. Each plant was measured every other day for twenty-one days.</p> <p>Results All the plants grown in the sunlight were healthier than the plants grown under fluorescent light or black light. The plants grown under the fluorescent light were the second healthiest but some of the plants were starting to die while the plants under the black light were all dying.</p> <p>Conclusions/Discussion My conclusion is that the type of light that a plant is grown under has an affect on the plant growth. Plants require light of specific wavelengths to grow. I used sunlight which emits lots of both red and blue light, fluorescent light which emits some blue light and very little red light, and black light which emits very little blue light and no red light. Chlorophyll, a substance in plant leaves that absorbs light energy to help make a plant's food, absorbs mainly red and blue light and reflects green light. This is what makes a plant look green. Therefore the plants grown under sunlight were the healthiest while the plants under fluorescent light were the second healthiest, and the plants under the black light were the least healthy.</p>	
Summary Statement My project demonstrates that a plant's growth is affected by the type (wavelengths) of light it is grown under.	
Help Received My sister helped me come up with the idea. My parents helped me with buying the materials for the project and with submitting the application.	