

#23

Grade 7-Blue St. Joseph School

Herndon, VA

Mrs. Hurley

Botany

Which Color Light is Better for Plant Growth?

The purpose of the experiment was to see how different colors of light affect plant growth. The hypothesis is that if the plant receives different colored light, then it will have different growth rates. I believed that white would grow the best because it contains all of the colors on the visible spectrum

To conduct the experiment, a partitioned room was built with six little boxes (each 25.4x25.4x30.5 cm.). Each holder contained soil and the beans/seeds (beans, three black eyed peas, and basil seeds). About 14 centimeters away from the top of the seedling holder were the colored light bulbs (blue, green, red, purple, white, and ultraviolet). The different colored lights, the seeds, and the beans were the independent variables. The dependent variable is the height of the plants. Before planting the beans, they germinated in water. The constant in this experiment was the white light as a substitute for the sun. The seeds/beans were planted on the 14th of December and started sprouting in the first few days. The plants grew and were watered over the course of 22 days (3 weeks and one day). The data was then recorded.

The conclusion of the experiment was that the hypothesis was correct because some plants grew tall and healthy, tall and unhealthy, short and healthy, short and unhealthy, or didn't grow at all. For blue light the plants did well in the first few days then after awhile kept growing but the stem and leaves were not very healthy. The plants in the green light grew pretty high and very healthy. Red light was somewhat healthy and tall. Purple was not very healthy or tall. The plants in white light were healthy, strong and tall, but the leaves started losing their color and turning white because they were too close to the lightbulb. The ultraviolet light was not very healthy or tall.