***ABSTRACT, HYPOTHESIS, & PREDICTION***

**Abstract**

Green plants contain chlorophyll a and chlorophyll b that absorb red and blue wavelengths in order to drive photosynthesis. However, green plants also contain accessory pigments that absorb photons intermediate in energy between the red and blue wavelengths. The accessory pigments transfer a portion of the energy to chlorophyll to use in photosynthesis, which makes it difficult to determine which wavelength(s) have the most positive effect on photosynthetic rate. To answer this question simple snap bean plants (*Phaseolus Vulgaris*) were grown in pots covered with red, blue, or green cellophane in order to turn natural sunlight into wavelengths of the electromagnetic spectrum. Snap beans were watered every day and measurements of the snap beans' features were recorded. After 3 weeks results showed that the snap beans that were grown under the blue wavelength had shown the most progress or growth. Perhaps a tool to measure glucose production of the snap beans could have given more reliable conclusions rather than basing the quality of photosynthetic rate on growth.

**Hypothesis/Prediction**

The blue wavelength will produce the most growth in *phaseolus vulgaris* because blue wavelengths are the shortest wavelengths that green plants absorb and contain the most energy.

If we plant 4 groups of  *phaseolus vulgaris* (snap beans) with 4 plants in each group under red, blue, green, and normal sunlight wavelengths, then the group of plants under the blue wavelength will show evidence of the greatest amount of photosynthetic growth.