**Instructions:**

* Go to the following Virtual Lab Website <http://www.glencoe.com/sites/common_assets/science/virtual_labs/LS12/LS12.html>
* The virtual lab runs under Flash. You may need to enable your browser to run it.
* Watch the short video clip about the white light spectrum and the pigments in plants.
* Using the controls to run the experiment, collect data to fill in the tables for radish and lettuce.
	+ Select a plant
	+ Select the color for each chamber
	+ Turn the light switch “On” to run the experiment
	+ Use your mouse to grab the ruler and measure the height of the tallest part of the plant to the nearest centimeter. The height of each plant counts as one observation.
	+ Record the data in the appropriate data table.
	+ Calculate the average height of the plant for each color.

**Table for Spinach (already filled out)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **COLOR** | **Red** | **Orange** | **Green** | **Blue** | **Violet** |
| **Measured Height of plant** **(cm)** | **Observation 1** | 16  | 16  | 1  | 18  | 14 |
| **Observation 2** | 22  | 17  | 3  | 22  | 19 |
| **Observation 3** | 17  | 12  | 2  | 17  | 15 |
| **AVERAGE** | 18.3 | 15.0 | 2.0 | 19.0 | 16.0 |

TABLES TO FILL OUT

1. **Table for Radish**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **COLOR** | **Red** | **Orange** | **Green** | **Blue** | **Violet** |
| **Measured Height of plant** **(cm)** | **Observation 1** |  |  |  |  |  |
| **Observation 2** |  |  |  |  |  |
| **Observation 3** |  |  |  |  |  |
| **AVERAGE** |  |  |  |  |  |

1. **Table for Lettuce**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **COLOR** | **Red** | **Orange** | **Green** | **Blue** | **Violet** |
| **Measured Height of plant** **(cm)** | **Observation 1** |  |  |  |  |  |
| **Observation 2** |  |  |  |  |  |
| **Observation 3** |  |  |  |  |  |
| **AVERAGE** |  |  |  |  |  |

QUESTIONS TO ANSWER

1. Based on these observations, which color of light causes the greatest amount of plant growth?
2. Based on these observations, which color of light causes the least amount of plant growth?
3. In a short paragraph, explain how these observations are consistent with the information presented in the short video?
4. Given that white light contains all colors of the spectrum, what growth results would you expect under white light?