Name _____ Period _____ Date _____

Spectrum Virtual Lab

Purpose: Investigate the effects of light spectrum on plant growth

Go to web page http://www.glencoe.com/sites/common_assets/science/virtual_labs/LS12/LS12.html

Hypothesis:
   A. Which color do you think the plants will grow the most in? _____
   B. Which color do you think the plants will grow the least in? _____
   C. Which plant will grow the best under blue light when compared with red light growth?_____

Experiment 1
   1) Select a plant and fill in the type in table 1
   2) Select red for one booth and a color for the other booth
   3) Run the experiment (the light switch)
   4) Use the ruler to measure all three plant in each booth . Record this data in Table 1.
   5) Click the reset button.
   6) Repeat steps 2-5 with the same plant until all the colors have been tested.

Experiment 2
   1) Select a different plant and repeat experiment one with that plant .
   2) Put the data in table 2

Experiment 3
   1) Select the last plant and repeat experiment one with that plant.
   2) Put the data in table 3

Table 1 : Experimental plant used_____

Trial 1	Red	Red
Plant 1		
Plant 2		
Plant 3		
Average height		
Trial 2	**Red**	**Violet**
Plant 1		
Plant 2		
Plant 3		
Average height		
Trial 3	**Red**	**Blue**
Plant 1		
Plant 2		
Plant 3		
Average Height		
Trial 4	**Red**	**Green**
Plant 1		
Plant 2		
Plant 3		
Average Height		
Trial 5	**Red**	**Orange**
Plant 1		
Plant 2		
Plant 3		
Average Height		

Table 2: Experimental Plant _____

Trial 1	Red	Red
Plant 1		
Plant 2		
Plant 3		
Average height		
Trial 2	Red	Violet
Plant 1		
Plant 2		
Plant 3		
Average height		
Trial 3	Red	Blue
Plant 1		
Plant 2		
Plant 3		
Average Height		
Trial 4	Red	Green
Plant 1		
Plant 2		
Plant 3		
Average Height		
Trial 5	Red	Orange
Plant 1		
Plant 2		
Plant 3		
Average Height		

Table 3 : Experimental plant used_____

Trial 1	Red	Red
Plant 1		
Plant 2		
Plant 3		
Average height		
Trial 2	**Red**	**Violet**
Plant 1		
Plant 2		
Plant 3		
Average height		
Trial 3	**Red**	**Blue**
Plant 1		
Plant 2		
Plant 3		
Average Height		
Trial 4	**Red**	**Green**
Plant 1		
Plant 2		
Plant 3		
Average Height		
Trial 5	**Red**	**Orange**
Plant 1		
Plant 2		
Plant 3		
Average Height		

Data Analysis

What color is the control color? _____

How do you know the color above is the control color? _____
_____

For Experiment 1 analysis
Which color allowed the most growth? _____
The Least growth?_____
Why do you think this was (hint pigments) _____
_____
_____

For Experiment 2 analysis
Which color allowed the most growth? _____
The Least growth?_____
Why do you think this was (hint pigments) _____
_____
_____

For Experiment 3 analysis
Which color allowed the most growth? _____
The Least growth?_____
Why do you think this was (hint pigments) _____
_____
_____

How did you test your hypothesis? Which variables did you control in your experiment and which variables did you change to compare your growth results? _____
_____
_____
_____
_____

Did your data support your hypothesis? Explain. _____
_____
_____
_____

Explain any similarities or differences between the different types of seeds? _____

_____

_____

_____

What conclusions can you draw about which color in the visible spectrum causes the most plant growth? _____

_____

_____

Given that white light contains all the colors of the spectrum, what growth results would you expect under white light? _____

_____

_____

_____