FLINN SCIENTIFIC

Name_____

Beyond the Rainbow Worksheet

Data Table A

Time (min)	Shade Temperature, °C	Thermometer 1 (Blue), °C	Thermometer 2 (Yellow), °C	Thermometer 3 (Beyond red), °C
0				
1				
2				
3				
4				
5				

Data Table B

Thermometer	Shade	1 (Blue)	2 (Yellow)	3 (Beyond red)
Temp. Change, ΔT				

Post-Lab Questions and Post-Lab Calculations

1. Calculate the change in temperature (ΔT) for the Herschel experiment over 5 minutes for each thermometer by subtracting the initial temperature (0 minutes) from the final temperature (5 minutes). Record the difference in Data Table B.
2. Describe the change in temperature over time for each of the thermometers. Which thermometer had the highest temperature?
3. What can you infer about the region beyond the red end of the visible spectrum?
4. In the space below, draw the outline of the visible spectrum from the Ritter Experiment, marking the red end and the violet end. Shade in the darkened area as it appeared on the exposed sun print paper.
5. What can you infer about the region beyond the violet end of the visible spectrum? What evidence led you to this conclusion?
6. *(Optional)* Herschel most likely used the Fahrenheit temperature scale. Convert the temperature change from Celsius to Fahrenheit degrees by using Equation 1. Record the Fahrenheit temperature change for each thermometer in the space below.

$$°F = 9/5\ (°C)$$ *Equation 1*