Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: \_\_\_\_\_

**Radiation Lab**

**Question:** Does color affect the temperature of a liquid?

1. Define radiation:
2. **Hypothesis:** If heat radiation is applied to different glasses with colored water then \_\_\_\_\_\_\_\_\_\_\_\_\_\_ water will heat up the most because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Procedure:**

**Step 1**- Gather together 7 glass beakers, 1 graduated cylinder, 1 light source and 1 thermometer.

**Step 2**- Put 50 mL of water into each of the glass beakers.

**Step 3**- Put 4 drops of food coloring drop in each beaker to make the designated colors. One beaker will have clear water in it.

**Step 4**- Plug in the light source and clip it down so that it remains stationary.

**Step 5**- Put all beakers under the light source and measure their starting temperature.

**Step 6**- Measure their temperature every 5 minutes for 25 minutes and record it in the data chart. Make sure that you are measuring the water in oC.

**Data:**

**Temperature oC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Color** | **0 min** | **5 min** | **10 min** | **15 min** | **20 min** | **25 min** |
| **red** |  |  |  |  |  |  |
| **orange** |  |  |  |  |  |  |
| **yellow** |  |  |  |  |  |  |
| **green**  |  |  |  |  |  |  |
| **blue**  |  |  |  |  |  |  |
| **purple** |  |  |  |  |  |  |
| **clear** |  |  |  |  |  |  |

1. Graph your results (each line should be a different color!)

**Color and Temperature**



**Conclusion:**

1. What is the relationship between particle motion, temperature and heat transfer. Write a paragraph and include all the underlined words.