

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

Date: \_\_\_\_\_

## Does Light Make Heat?

When we think of things that make light, we think of things like the sun, fire and light bulbs. We know the sun is a big ball of burning gas that is so hot we could never get close to it. We have experienced the fact that if you sit too close to a fire you get uncomfortable due to the extreme heat, and many people have suffered burns when trying to remove a light bulb that has just been on for a while. The question is, do all sources of light produce heat? And, if so, are some hotter than others? Today we will focus more on the second half of that question, looking at similar light bulbs.

### Equipment:

- Lamp
- Florescent Light Bulb
- Incandescent Light Bulb
- Thermometer
- Incandescent Christmas Lights
- LED Christmas Lights

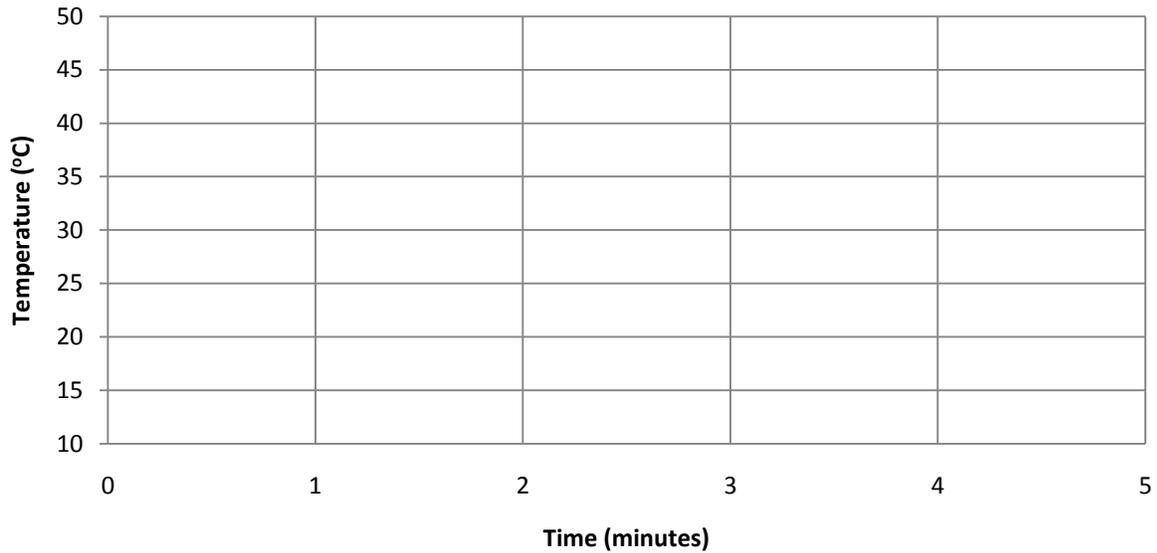
### Procedure:

1. Set up the thermometer such the bulb is touching the light source.
2. Turn record the temperature.
3. Turn the light source on.
4. Record the temperature every minute for 5 minutes.
5. Get the date for the rest of the light sources from your classmates.

### Observations:

Light Source	Temperature (°C)					
	Initial	1 min	2 min	3 min	4 min	5 min
Incandescent Bulb						
Fluorescent Bulb						
Incandescent Christmas Lights						
LED Christmas Lights						
Classroom Lights						

## Light Bulb Temperature



### Discussion:

1. There are a lot of advertisements out that say people should switch their lights to fluorescent bulbs. Based on what you have observed today, what is your opinion?

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2. Boxes of LED Christmas lights say they save 80% to 95% more energy than regular Christmas lights. Based on today's experiment, can you explain one reason as to why that might be?

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