

# Which Light Bulb? Experiment Procedures

Name \_\_\_\_\_

## Station 1: Gathering data from the light bulb packaging

1. Examine the light bulb packaging at this station and use it to find the following data:

Type of Bulb	Energy Used (Watts)	Light Output (Lumens)	Life (Years)

## Station 2: M

1. Take a thermometer and read the current temperature. If another pair has previously used the thermometer, wait one minute before taking your reading. Record the temperature below:

Thermometer 1 temperature (CFL)	Thermometer 2 temperature (Incandescent)

2. Turn both the CFL and Incandescent lights on
3. Put your hand under the light about 1 foot away from the bulb. What do you observe? Write down your observation below:

Type of Bulb	Observation

4. Put a thermometer under each light. Start the timer and wait two minutes. After two minutes have passed, turn off the lights and take a reading of each thermometer.

Thermometer 1 temperature (CFL)	Thermometer 2 temperature (Incandescent)

5. At the end of the class period, I will announce the energy usage of each bulb. Write those numbers down in the table below:

CFL Energy Usage (KW/H)	Incandescent Energy Usage (KW/H)

## Station 3: Measuring Light Output

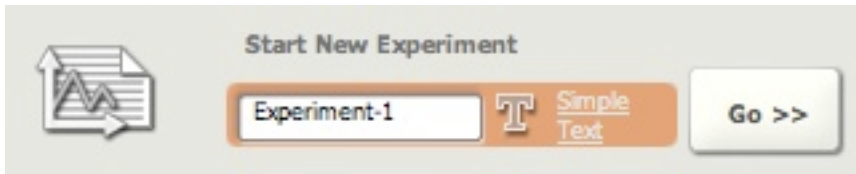


1. Open the LEGO Mindstorms software. Its icon looks like this:

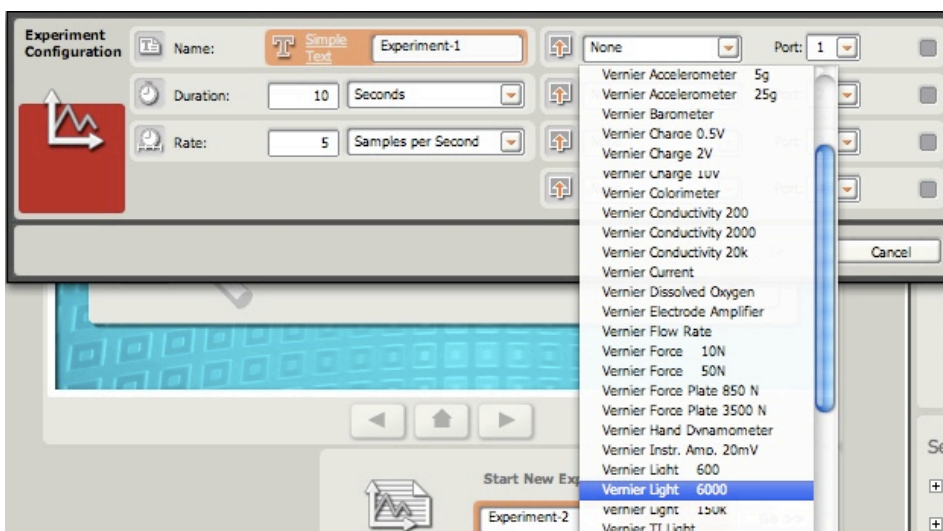
2. Go to the Data Logging screen by clicking on the button at the top of the screen that looks like this:



3. Create a new experiment by clicking the “Go” button as shown below:



4. Set up the light sensor by choosing “Vernier Light (6000)” from the dropdown menu by Port 1, as shown below:



5. Send your new experiment to the NXT by clicking the Play button. It looks like this:



6. Set the light sensor on the floor, pointed up at the light. When the experiment is done, record the average light levels here:

Light Output (CFL)	Light Output (Incandescent)