



HEAT FROM LIGHTS

JUSTIN TAYLOR

ENERGY LESSON

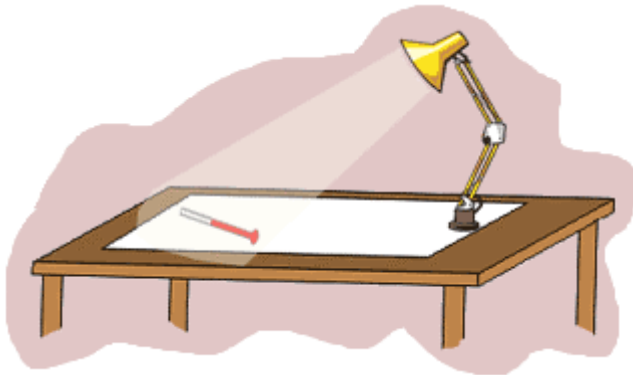
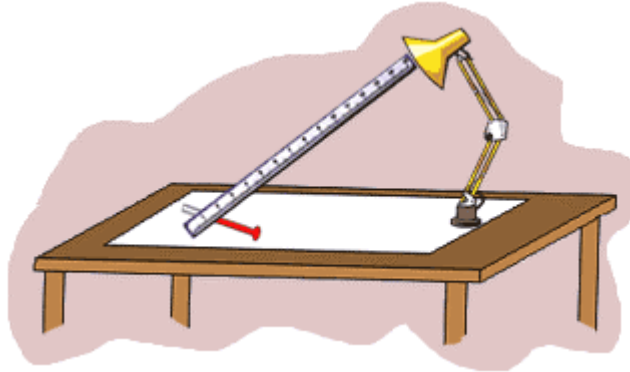
Time Frame:	Standards:
30-60 minutes 3 rd Grade	3.S.1.2.1 Make observations, collect data and evaluate it. 3.S.1.2.2 Replicate and/or use models 3.S.1.3.1 Measure changes that occur 3.S.1.6.3 Use appropriate tools and techniques and display data. 3.S.1.6.5 Make simple predictions. 3.S.1.6.7 Communicate the results of tests to others 3.S.1.8.1 Read and give multi-step instructions
Objectives:	
SWBAT work with one another and observe how temperature changes with the use of different light bulbs.	
Background Information:	
A lot of people might not realize that a by product of incandescent light bulbs is heat. The new CFL's and LED light have a fraction of heat as a by product. Students need to realize that the longer you leave a light on the more thermal energy is released.	
Materials:	
<ul style="list-style-type: none">• Lamp• Extension Cord• Different watt light bulbs. Possible 25, 40 60, and 100 watt.• Thermometer• Ruler and or yard stick• White towel• Timer	

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Procedure:

1. Put a towel on a table.
2. Put a lamp on the table at one end of the table
3. Put a thermometer under the light and measure the distance from the bulb.
4. Screw in a light bulb.
5. Measure the temperature before the lamp is turned on.
6. Turn on the light and measure the temperature. Record the temperature after 5 minutes.



7. Allow for the lamp to cool down and repeat the previous step for each of the light bulbs.
8. Record the different temperatures for each light bulb and discuss with the class.



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Assessment:

Collect the Table below and see if the students are able to correctly read and thermometer. Also as an extension have the student graph the different temperatures on one graph. Have the students use a line graph to show the change in temperature over time. Also have each line in the graph a different color.

Additional Content:

Table for collecting data.



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Thermal Heat

Name: _____

	Temp. after 1 minute	Temp. after 2 minutes	Temp. after 3 minutes	Temp. after 4 minutes
20W Light Bulb				
40W Light Bulb				
60W Light Bulb				
100W Light Bulb				
CFL ____W				
CFL ____W				

Energy for Educators

Bringing Energy into the Classroom



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References:

Information for this lesson was from Energy Quest and their website is
<http://www.energyquest.ca.gov/projects/heat.html>