

Name: _____

Class: _____



Earth Day Challenge: Home Light Bulb Audit



Your mission, should you choose to accept it, is to count the number of light bulbs in your home and calculate the savings if you switched to energy efficient lighting.

Record the **number of light bulbs** of each type in your home. Don't forget closets, the basement and the garage.

Most Energy Efficient Lighting

Number LED Bulbs: _____

Number Fluorescent (CFL or tube): _____



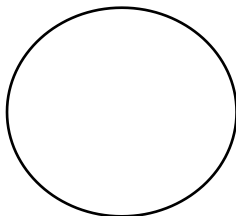
Less Energy Efficient Lighting

Number Incandescent Bulbs: _____

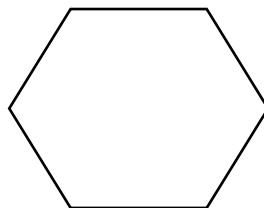
Other Light Bulbs: _____



Potential Cost Savings by Installing Energy Efficient Lighting



Number of less efficient bulbs that could be replaced in your home (from numbers above)



Lifecycle cost saving for replacing 1 less efficiency bulb (from reverse side)



Potential Lifecycle Cost Savings by installing efficient lighting

Calculate the Savings of LED Light Bulbs

“Why should I change my light bulbs to LED’s? That is a great question! To get the answer, we need to look at the life cycle cost for light bulbs.

What is the life cycle cost? The life cycle cost is the initial cost of the appliance (in our case a light bulb) AND the cost of energy needed to use the appliance over its life.

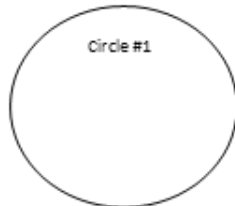
Initial cost of light bulb + Energy costs (electricity)
= Life Cycle Cost of light bulb

Use the chart at the right to complete the equations below to determine which light bulb has the lowest life cycle cost and the greatest savings to provide 15,000 hours of light.

Bulb Specifications	IL Incandescent	LED Light Emitting Diode
Light Output (lumens)	640 lumens	800 lumens
Life Expectancy (hours)	2,500 hours	15,000 hours
Energy Used (watts)	60 watts	9.5watts
Cost per Bulb (dollars)	\$.50	\$3.00
Number of Bulbs needed for 15,000 hours of light	6	1
Cost of Light Bulbs for 15,000 hours of light	\$3.00 (circle 1)	\$3.00 (circle 3)
Cost of Electricity for 15,000 hours of light	\$117.00 (circle 2)	\$18.53 (circle 4)

Use the table above to complete the chart.

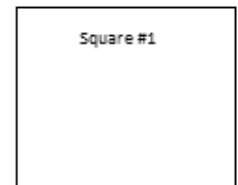
Incandescent



Cost of Incandescent Bulbs

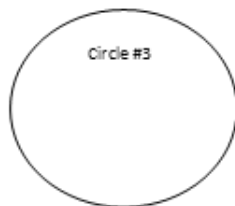


Cost of Electricity



Incandescent Life Cycle Cost

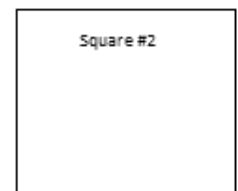
LED



Cost of LED Bulbs

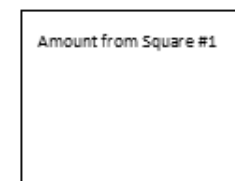


Cost of Electricity

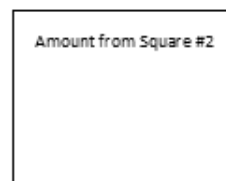


LED Life Cycle Cost

Savings



Incandescent Life Cycle Cost



LED Life Cycle Cost



Life Cycle Savings for replacing one IL with a LED
Record on front of page