Name:	
Date:	
Class Period:	

## Sources of Light Energy Worksheet

Incandescent bulbs are more efficient as heaters than sources of light. They lose 10% of their energy as light and 90% as heat. Many people are using other sources of light that consume less energy, because they cost less to operate, produce less heat, and use less electricity.

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1. 2.	How much does a kilowatt-hour of electricity cost to purchase in your region? How much would it cost to operate one 100-watt incandescent light bulb for 10 hours at the price of 8 cents per kWh?
3.	cents per kWh?  How much would it cost to operate one 25-watt incandescent light bulb for 10 hours at the price of 8 cents per kWh?
4.	cents per kWh?  The light from a 24-watt compact fluorescent light bulb is nearly equivalent to the light produced from a 100- watt incandescent light bulb. If we assume that each kilowatt-hour costs 8 cents, how much does it cost to operate a 24-watt compact fluorescent light bulb for 10 and 24 hours?  Compact Fluorescent  Incandescent
	10 hours of operation:
5. 6.	24 hours of operation:  How much money was saved by using the 24-watt compact fluorescent light compared to the 100-watt incandescent light in 24 hours?  A light bulb's electric use is measured in watts per hour, but electricity is sold by kilowatt-hours, or units of 1000-watt hours. Therefore, you can calculate the cost of using a bulb with these simple formulas.  Total watts x Total hours operated = Energy used
	Energy used x Cost per kWh + cost of bulb = Cost of operation $1000$
	Find the cost of operation of a 100-watt incandescent bulb for 10 hours of operation at the price of 8 cents per kWh. The cost of the bulb was \$0.50.
7.	Count the light bulbs and the wattage of the bulbs in your home.  Total number of bulbs:  Total number of 100-watt incandescent bulbs:  Total number of 60-watt incandescent bulbs:  Total number of 40-watt incandescent bulbs:  Total number of 75-watt incandescent bulbs:  Total number of 25-watt incandescent bulbs:  Total number of fluorescent bulbs:  Total number of fluorescent bulbs:  Total number of other bulbs:  Total number of other bulbs:  Describe other:

How many kilowatt-hours would be used where you live if all the bulbs were on at the same time for 10 hours?