Let's Compare Holiday Lights: Answer Key

100 Large Incandescent Holiday Light Bulbs (C9)	100 Large LED Holiday Light Bulbs (C9)
	
Consumption per 100 bulbs: 700 watts (0.7kW)	Consumption per 100 bulbs: 6 watts (0.006 kW)
0.7kW x 4 sets = 2.8 kW 2.8 kW x 6 hr/day = 16.8 kWh/day 16.8 kWh/day x 30 days/holiday season = 504 kWh/holiday season	0.006kW x 4 sets = 0.024 kW 0.024 kW x 6 hr/day =0.144 kWh/day 0.144 kWh/day x 30 days/holiday season = 4.32 kWh/holiday season
504 kWh/holiday season x $0.15/kWh **= $75.60/holiday season**	4.32 kWh/holiday season x $0.15/kWh **= $0.65/holiday season**

100 Mini Incandescent Holiday Light Bulbs (M5)	100 Mini LED Holiday Light Bulbs (M5)
	
45 watts = 0.045 kW	2 watts = 0.002 kw
0.045kW x 4 strands = 0.18 kW 0.18 kW x 6 hr/day = 1.08 kWh/day 1.08 kWh/day x 30 days/holiday season = 32.4 kWh/holiday season	0.002kW x 4 strands = 0.008 kW 0.008 kW x 6 hr/day = 0.048 kWh/day 0.048 kWh/day x 30 days/holiday season = 1.44 kWh/holiday season
32.5 kWh/holiday season x $0.15/kWh **= $4.86/holiday season**	1.44 kWh/holiday season x $0.15/kWh **= $0.22/holiday season**

DISCUSSION:

1. Which type of holiday lights will have the highest energy cost for the holiday season? Large Incandescent
2. Which type of holiday lights will have the lowest energy cost for the holiday season? Mini LED
3. How much would you save in electricity costs each holiday season if you changed large incandescent holiday lights to large LED holiday lights? $75.60 - $0.65 = $74.95
4. How much would you save in electricity costs each season if you changed small incandescent holiday lights to small LED holiday lights? $4.86 - $0.22 = $4.64