Carbon Dioxide Savings: Calculation Worksheet

- The average price people in the U.S. pay for electricity is 12 cents per kilowatt-hour (abbreviation: kWh). (according to npr.org)
- 1 Kilowatt = 1,000 Watts
- To convert Watts to Kilowatts, divide the total wattage by 1,000

Light Bulb Exercise:

10 incandescent light bulbs using 100 watts each = _____ watts of energy per hour
                                                                              1

a. _____ / 1,000 = _____ kilowatt hours of energy
        1   2

b. _____ X 24 hours of daily use X 30 days in a month = _____ kilowatt hours of energy
        2   3

c. _____ X 12 cents = $ _____ spent on lighting per month
        3   4

- Turn the lights off while you are out of the house (8 hours/day for this example) and while you are sleeping (8 hours/night) = 16 hours/day
- For "b", we assumed the lights were on 24 hours/day, but now we can assume the lights are on only 8 hours per day (24-16=8)

d. _____ X 8 hours of daily use X 30 days in a month = _____ kilowatt hours of   energy
        2   5

e. _____ X 12 cents = $ _____ spent on lighting per month
        5   6

f. $ _____ - $ _____ = savings on lighting per month
         4   6

g. _____ kWh - _____ kWh = _____ kWh of energy saved per month
         3   5   7

h. _____ X 800g CO2 = _____ CO2 emissions reduced by turning off lights
         7

Average Household Energy Waste:

A. Convert Average Household Waste to kilowatt hours wasted
   - The average U.S. household consumes 11,700 kWh of energy each year, or 4,500 kWh per person. (data from **http://shrinkthatfootprint.com/average-household-electricity-consumption)**.

If the average household wastes 35% of its energy, that means the average household wastes _____ kWh of energy each year.

            1
   Use a calculator to
  find 11,700 kWh X .35

B. Convert kilowatt hours wasted to money wasted

_____ X 12 cents /100 = $ _____ wasted on energy each year by the
  1   average household

C. Convert kilowatt hours wasted to carbon dioxide emissions

_____ X 800g CO_2 = _____ CO_2 emissions due to energy waste by the
  1   average household each year