MATH AROUND MY HOUSE

Learn how much energy your family uses for lighting each day.

Grade Levels: 2-3

INSTRUCTIONS:

1. Count how many light bulbs you have at each wattage. Make your best guess about how long the different light bulbs are turned on in your house each day.

   a. 60W (# bulbs) _____ x Hours per day _____ = _____ total hrs per day
   b. 75W (# bulbs) _____ x Hours per day _____ = _____ total hrs per day
   c. 25W (# bulbs) _____ x Hours per day _____ = _____ total hrs per day
   d. 100W (# bulbs) _____ x Hours per day _____ = _____ total hrs per day

2. Using this formula, calculate how much electricity your house uses to power those light bulbs.

   Electricity used (kWh) = wattage of bulb x hours of use divided by 1000

   a. (60W x _____ total hrs per day) ÷ 1000 = _____ kWh per day
   b. (75W x _____ total hrs per day) ÷ 1000 = _____ kWh per day
   c. (25W x _____ total hrs per day) ÷ 1000 = _____ kWh per day
   d. (100W x _____ total hrs per day) ÷ 1000 = _____ kWh per day

   Add a + b + c + d for TOTAL ELECTRICITY FOR LIGHTING PER DAY _____ kWh

3. Using this formula, calculate how much it costs your family to use lights each day. In 2010, the average rate for electricity in the U.S. was $0.1153 per kilowatt-hour (kWh). Avista customers in Washington pay $0.07985 per kWh (pricing as of August 2012).

   Cost per day = kWh per day x electric rate per kWh

   a. 60W _____ kWh per day x _____ electric rate per kWh = $ _____ per day
   b. 75W _____ kWh per day x _____ electric rate per kWh = $ _____ per day
   c. 25W _____ kWh per day x _____ electric rate per kWh = $ _____ per day
   d. 100W _____ kWh per day x _____ electric rate per kWh = $ _____ per day

   Add a + b + c + d for TOTAL COST FOR LIGHTING PER DAY $ _____

THINK ABOUT IT:

- Are there ways you can use less energy for lighting your house?
- Are there times when the lights are on, but you aren't using them?
- How much energy and money could you save by changing out just one higher wattage bulb for a lower wattage bulb?

AVISTA