

Home energy detectives worksheet

Power Smart for Schools

Name: _____

Date: _____

Challenge

To investigate how much energy is used by the appliances that are in your home and calculate how much that electricity costs.

Critical question

How can you conserve electricity at home and save money on your electricity bill?

Instructions

1. Select three to five electrical appliances you use every day and list them in the chart in the “Appliance” column. Choose things like a refrigerator or freezer, microwave, toaster, dishwasher, clothes washer or dryer, hair dryer, or television.
2. Find the information panel on the appliances you’ve selected and note the wattage (power) used by the device. Divide that number by 1,000 to determine the kilowatts the appliance uses. Record this for each device in column 2, “Power rating of device”.
3. For three days, keep track of the amount of time you use each device. After three days, calculate the total amount of time each object was used and record this in the column 6, “Total time”.
4. Calculate the kilowatt hours of electrical energy used by each device over three days by multiplying the power rating of the device in kW (column 2) by the total time used in hours (column 6). Enter this amount in column 7, “Total kWh”.
5. Calculate the cost of operating each device for three days by multiplying the total kWh used by the cost per kWh (\$0.0858). For each device, enter the total into column 8, “Operating cost”.
6. Add the various operating cost amounts to calculate the grand total: the entire cost to use the three appliances or devices for three days.

Electrical energy used and cost for three days

Appliance	Power rating of device (kW)	Time used per day (h)			Total time	Total kWh	Operating cost
		Day 1	Day 2	Day 3			
Grand total cost:							

