Appliance Audit Instructions

Adapted from EcoSpark's Wattwize: http://prezi.com/l6r3trx9gwgx/?utm_campaign=share&utm_medium=copy

Purpose:
The purpose of this audit is to help students become more aware of the electricity used by each appliance in their dorms.
Materials needed:

1) Plug-in electricity meter(s)
2) Blank Appliance Audit Worksheets
3) Calculators

Safety First!
Health and Safety tips while using the plug-in electricity meters

- Read the operating instructions for your specific electricity meter
- Demonstrate the proper use of the device for your students and supervise while using the devices
- Plug-in electricity meters are designed to operate within specific voltage ranges. Only measure appliances within the acceptable range for your device.
- When using plug-in electricity meters or other electrical devices use regularly maintained outlets and check outlet for sparks before students conduct their investigation

How to conduct a UVic dorm appliance audit
STEP 1: As a group brainstorm a list of all the appliances in dorm's that use energy (i.e., computers, printers, laptops, lamps, cellphones, portable heaters, fans, mini fridges etc.).
STEP 2: Choose 4 to 8 appliances to investigate: We recommend that you choose appliances that are common among different dorms.
STEP 3: Complete the appliance audit worksheet: When completing the worksheet students can fill- in the first two columns "in the field" and complete to other columns back in the second meeting. Depending upon the size of your group or EcoTeam, and your access to plug-in electricity meters, you may consider dividing into 5 groups and assigning each group an appliance to investigate. Using the Kill-A-Watt worksheet as a guide, students will investigate the following:

1) **Measure the power draw (watts)**: Use your plug-in electricity meters to measure and record the power draw (Watts) for the In Use, Standby (if applicable), Phantom modes for each of your 5 appliances.
    a. **In Use draw** = power being drawn when the appliance is in use.

b. **Standby draw** = power being drawn when the appliance is in sleep or standby mode (may not apply to all appliances).
c. **Phantom draw** = power being drawn when the appliance is turned off.

2) **Estimate the hours of use per week**: Estimate and record the average number of hours each appliance is drawing energy in each mode. Be sure to include the weekend in your calculations if the appliance is not unplugged.
3) **Calculate the total electricity used in one week per mode for each appliance** = (Power draw) x (Hours of use per week per mode)
4) **Convert total electricity used to kWh**: =(Total electricity used in one week per mode) ÷ 1000
5) **Calculate total electricity used in one week per appliance:** Add together "Total electricity used in one week in kWh" for each mode for each appliance.
6) **Calculate the total average cost of electricity used by each type of appliance type in one year**: Total cost of electricity consumed by dorm appliances per week = (Total electricity used per week) x ($0.089) x (52)

STEP 4 Analyze your collected data, identify target items, and discuss strategies

Once you have collected your data from the appliances, use the BC Hydro Energy Smart Around Your Home tip sheet to translate your data into practical energy conservation strategies. Find the tip sheet at http://www.bchydro.com/content/dam/hydro/medialib/internet/documents/Power_Smart_FACT_sheets/FACTS_energy_smarts_around_your_home.pdf
Communicate the results of your investigation and the energy conservation recommendations with your dorm community by creating a sweet poster or something.

EXAMPLE TABLE

Mode	Power Draw (watts)	Hours of Use Per Week	Electricity Used per Week for Mode	Total Electricity Used per Week	Total Cost of Electricity Used per Year
Appliance: Laptop Computer					
Mode 1: *Charging*	45W	20	900Wh		
Mode 2: Standby	10W	70	700Wh		
Mode 3: Off	1W	157	157Wh		