Appliance Audit

Aim: To discover how many appliances are present in the school and how much energy the use.

Procedure: Students visit their designated areas of the school to count every electrical object other than lights (you can use the Light Audit to survey the lighting in the school.) Telephones are not included unless they are the cordless variety or have an answering machine attached to them. Appliances are counted even if they are not in use.

Step 1: Students walk the school and count how many appliances they find. You can use the Appliance Quantity Sheet below or create your own.

Step 2: Next you need to find out how much energy each appliance uses. There are a few ways to do this:

- The wattage may be displayed on the appliance.
- Look up the appliance online to find out its energy use.
- Purchase an Appliance Display Meter which you can plug into each appliance and it will tell you how much energy it uses.
- You can use the chart below which contains estimated wattage for common school appliances.
- Electric Ireland has developed an appliance calculator.

Step 3: Finally you need to estimate how many hours the appliance is in use per day/per week/ per school year to find out how much energy is used on appliances in the school. (**See Worksheet 2 below.**)

Seven Steps Links:

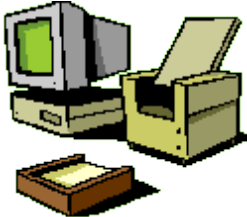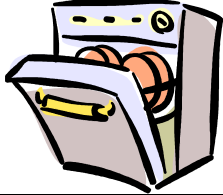|	
Step 2: Environmental Review	An Appliance Audit is a great way of discovering how much of the school's energy is being used on appliances.
Step 3: Action Plan	The results of the Appliance Audit will allow you to identify what kind of actions you will need to reduce energy consumption.
Step 5: Curriculum Work	Maths, Art and IT classes may be able to create graphs and diagrams that show the results of the audit.

A Note on Safety
Students should be reminded about the potential dangers of using electricity. Adult supervision is strongly recommended when handling any electrical device.
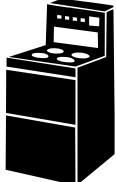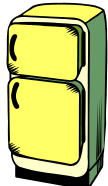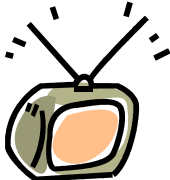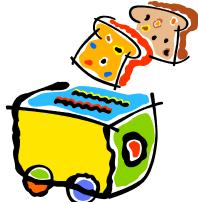
Worksheet 1: Appliance Quantity Sheet
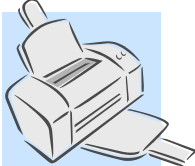
Student Name:

Appliance	Quantity
CD Players	
Computer with monitor	
Computer with monitor and printer	
Dishwasher	
Freezer	
Heater	

Kettle	
Microwave	
Oven	
Overhead Projector	
Refrigerator	
Television	
Toaster	

Interactive Whiteboard	
Photocopier	
Printer	
Washing Machine	
DVD/ Video Players	

Estimated Appliance Energy Use Chart

Appliance	Average Watts	Estimated Cost Per Hour (€) (c)
CD Player	100	0.014
Computer (with monitor)	100	0.014
Computer (with monitor and printer)	300	0.042
Dishwasher	2400	0.336
Freezer (250 litres)	160	0.0182
Freezer (400 litres)	230	0.0322
Heater (oil filled)	2000	0.28
Heater (fan)	1500	0.21
Heater (space)	6000	0.84
Hot Water Service	4800	0.672
Kettle	1800	0.252
Lamp (ultraviolet)	300	0.042
Lighting - fluorescent	40	0.0056
Compact fluorescent	11	0.00154
Incandescent	25	0.0035
Floodlight	250	0.035
Microwave Oven	1300	0.182
Mini Oven	600	0.084
Mixer (food)	110	0.0154
Oven (cooktop)	1500	0.21
Oven	2400	0.336
Overhead Projector	200	0.028
Photocopier	250	0.035
Radio/cassette	45	0.063
Refrigerator (average)	260	0.0364
Sewing Machine	75	0.0105
Television	200	0.028
Toaster	1200	0.168
Video Recorder	45	0.063
Washing Machine	900	0.126
Water Heater(boiling)	2400	0.336

Worksheet 2

Appliance	Quantity	Hours Per Day	Hours Per Week	Days Per Year	Total Energy Use
CD Players					
Computer with Monitor					
Computer with Monitor and Printer					
Dishwasher					
Freezer					
Heater					
Kettle					
Microwave					
Oven					
Overhead Projector					
Refrigerator					
Television					
Toaster					
Interactive Whiteboard					
Photocopier					
Printer					
Washing Machine					
DVD/ Video Players					