



## Energy Audit Draft Proofing

When the school furnace is heating the inside of the school, cold air entering the buildings through open doors and cracks forces the warm air outside. Most heat escapes through open doors and through cracks around doors and windows. Replacing old or damaged **weather stripping** and **caulking** will reduce the school's heating bill. The building will also be more comfortable.

For this audit, every member of your group will need a **draft detector**. One way to make a draft detector is to tape a piece of toilet tissue or facial tissue to a pencil, so 10 cm of tissue hangs off the pencil. **NOTE:** Incense works better to create a thin line of smoke that will move in a draft, but you may not be able to use incense in a school setting.

**Method:** Hold the draft detector near entrance doors and windows to see if drafts are entering the school. The tissue will wave when touched by a draft. Heating vents and student movement can cause the draft detector to move, but these are not drafts. Record the location of drafts so that you can share this information with your teacher, and so the caretaker can make repairs.

**Weather stripping:** Weather stripping seals openings like doors and windows from drafts and heat loss. It is often made of foam or vinyl and creates a seal when the door is closed. Damaged or missing weather stripping allow drafts to enter the building, and heat to be lost.

**Caulking:** Caulking seals joins around windows and doorframes. Caulking is a pliable material that goes on soft, and hardens to seal cracks or joins. If it becomes brittle or breaks off, the gap it leaves allows drafts to enter the building, and heat to be lost.



Use the chart below, or create your own to represent the doors and windows in your school.

Location	Drafts: <input checked="" type="checkbox"/> for a draft	Notes: specific window location or reason for draft: e.g. weather stripping damaged.
<b>Entrance Doors:</b>		
Main		
Boot Room Jr.		
Gym		
<b>Windows:</b>		
Room #		
Room #		



## Energy Audit Lighting and Lights Out

Lighting uses more electricity than anything else does in your school. Using inefficient lights (lights that use a lot of electricity), or having more lights turned on than are needed, wastes electricity.

This audit has two parts:

Behaviour: examining whether lights are turned out when not needed.

Technology: examining whether the lighting in your school is efficient.

### Part 1: Turn off unneeded lighting

Lights that are on when not needed waste electricity.

Find out when lights are on, or off in your school. Then decide if you need to remind students and staff to turn out lights that are not needed.

1. Use this chart or create your own to represent the rooms and lights in your school.

Location	Time of Day ( number of switches on /total number of switches)					
	Before class	During am class	recess	lunch	During pm class	After school
e.g. Room 12	0/4	4/4	3/4	3/4	4/4	0/4
<b>Totals: # or %</b>						

2. List areas where natural lighting (from windows and skylights) reduces the number of electrical lights used.

3. List areas where task lighting is used instead of, or as well as overhead lighting. Does task lighting use energy efficient bulbs? (ie. CFL's or LED's instead of incandescent bulbs)



### Part 2: Efficient lighting

1. Ask the caretaker to help you remove the cover from some of the lights in the school. He/she will be able to help you identify the different kinds of lighting.

Location	Fluorescent Tube Lighting			Task Lighting
e.g. classroom, office, hallway	<b>NE</b> Not Efficient T-12 is 1 ½" diameter tube, 40 Watts each	<b>E</b> Efficient T-8 is 1" diameter tube, 30 Watts each	<b>VE</b> Very Efficient T-8's or T-5's or LED's with reflectors (shiny metal behind lighting)	<b>NE</b> Incandescent or Halogen <b>E</b> Compact Fluorescent Light (CFL) <b>VE</b> Light Emitting Diode (LED)

2. Do outside security lights have photocell controls? These lights turn on automatically when it gets dark.

3. Does your school use occupancy sensors to turn lights on only when someone is in a room? List areas where occupancy sensors are used.



## Water Audit Leaking Toilets and Taps/ Taps Left On

Washrooms use more water than anything else does in your school. Toilets, urinals and showers are important parts of every school, but they can also waste lots of water. One leaking toilet can waste up to **200 litres** of water each day. A dripping tap can waste up to **12 litres** of water each day.

**Toilet with Tank:** To check for leaks in toilets that have tanks, put 4-5 drops of food colouring in the toilet tank and wait a few minutes. If the water in the bowl becomes coloured, the toilet is leaking.

**Tank-less Toilet:** Checking for leaks in tank-less toilets is a little trickier. You can listen to hear running water, or look to see if there is water on the insides of the bowl above the water line. (Both of these need to be done well after the toilet has been flushed) Or, dry the inside of the bowl above the water line with paper towel. Wait 10 minutes without flushing the toilet. If the inside of the bowl above the water line is wet, then the toilet is leaking.

**Taps:** To check for whether a tap is leaking or has been left on, first check for water dripping from the tap. If water is dripping, try to turn the tap fully off. If it turns off, record the tap as "Left on". If it does not turn off any more, but continues to drip, record the tap as "Leaking".

Use this chart or create your own to represent the toilets and taps in your school.

<b>Location:</b> e.g. boys washroom, science room	<b>Toilets</b> - record # leaking/total #	<b>Taps</b> – record # leaking/total # <b>Taps left on</b> – record #	<b>Notes:</b> specific location of leaking toilets/taps
e.g. Boys washroom	1 leak/4 toilets	0 leaks / 4 taps 1 tap left on	Toilet closest to door leaks

\*If you find leaks in toilets or taps, be sure to let your teacher or the caretaker know. If taps are being left on, consider a campaign to remind students to turn off taps.



## Waste Recycling/Waste Audit

Most schools have recycling programs and/or have made other changes to the way they handle garbage. Find out about all the kinds of waste your school generates by answering the following questions.

1. What kinds of waste does your school collect? Use this chart or create your own to represent the waste collection in your school. Visit each room to find out what waste is collected.

<b>Location</b> e.g. office, classrooms, lunchrooms	<b>Blue Bin:</b> paper, metals, cardboard, glass, plastic	<b>Juice/milk containers for refund</b>	<b>Compost:</b> food waste	<b>Hazardous Waste/other:</b> batteries, paints, ink cartridges	<b>Garbage</b>

2. Describe what your school does to encourage conservation (reduce, reuse, recycle) e.g. Garbage free lunch days, garbage free hot lunches, sharing basket for unwanted food, reuse school supplies, book swaps, outdoor or vermi-compost (worms), collect lost and found.

3. Are there other ways your school reduces waste? List some.