



Energy Saving Detective Help save energy at home!

Almost every home has ways it can save energy through lighting, heating, energy-using appliances and draughts - you can do your part!




With an adult's permission **become an energy detective**. Grab a pen and some paper, and follow the steps below to complete a household audit and find specific areas in your home to save energy!



HOUSEHOLD AUDIT

STEP 1 | LIGHTING

Making sure your home has the most electricity efficient light bulbs is important as there are lots of lights around the house, and they're used for long periods of time, adding up to wasted electricity! Go room-to-room and follow each step outlined below, writing down what you find:

-  Count the number of lights you have in each room
-  Check to see if lights are left on in empty rooms
-  With an adult, examine each lightbulb and check if it is an energy-efficient LED bulb. If you're unsure what an LED bulb looks like, look at our examples below to see what common bulbs look like in your home



Halogen

Halogen bulbs contain a coil of wire called the filament, this heats up when an electric current passes through it and produces light as a result. Filament technology is extremely inefficient. Only about 10% of the electricity converts into visible light, about 90% is wasted giving off heat. Modern replacements – such as CFLs and LEDs – are more energy efficient than traditional halogen light bulbs, meaning they waste less energy to the surroundings. They provide the same amount of light, but for less electricity.



LED

LEDs – or light emitting diodes – are even more energy-efficient than CFLs; while a traditional halogen bulb lasts around two years, or approximately 2,000 hours, an LED under typical use can last for 15-20 years. LEDs produce light from the electricity flowing through them and unlike CFLs, they turn on instantly at full brightness









CFL

CFL – or compact florescent lamp – were the first widely available energy-saving alternative bulb on the market and use around 70-80% less electricity than the equivalent traditional bulbs, as well as lasting almost 10 times longer. CFL bulbs have a gas inside a glass tube that is charged with electricity until it glows







STEP 2 | HEATING

Having an efficient heating system is one of the most important steps you can take to reduce your household energy usage. Go room-to-room and follow the steps below, writing down what you find:

-  See if any empty rooms are being heated
-  Make a list of what heating appliances are in each room e.g., radiators, portable heaters and blankets
-  Check that your heating appliances are clean and dust free
-  See if your heating appliances are being blocked by anything, this could be by large furniture and / or radiator covers
-  Ask an adult to check if your home's thermostat is set between 18 °C to 21 °C
-  Ask an adult when was the last time your boiler was serviced and the radiators drained

STEP 3 | ENERGY USING APPLIANCES



Our homes are full of energy-using appliances including washing machines, laptops, TVs, chargers, game consoles, kettles etc. These appliances can be using energy even when you're not using them. For example, TVs, computers, and games consoles all use electricity whilst in standby mode. Go room-to-room and follow the steps below, writing down what you find:

-  Make a list of appliances in each room (e.g., TV, games console)
-  Count the number of appliances that are plugged in when not in use. Look for bright little lights on appliances. These are standby lights, and they show that your appliance is in standby mode
-  Ask an adult whether they use the eco-setting or energy saving feature on appliances
-  Ask an adult whether they know the energy efficiency rating of individual appliances




STEP 4 | DRAUGHTS

Draughts can enter your home through unwanted gaps. Picture this as your house "leaking" warm air, wasting heat and energy. It is important these draughts are covered to reduce energy loss! Go room-to-room and follow the steps below, writing down what you find:

-  See if any internal doors have been left open
-  Look to see if windows have been left open when the heating is on

STEP 5 | REVIEW YOUR FINDINGS

 Review your findings by making a list of key lighting, draught, appliance, and heating inefficiencies in your home. Share your findings with your family so that they are aware of your findings too! **Help your family save energy by creating posters to put up around your home**, reminding your family to switch off lights, unplug devices, shut internal doors, and turn down the heating

Did You Know?

The lifetime of a LED light source can be up to 10 times longer than that of traditional light sources. A conventional bulb has a lifetime of about 2,000 hours, while LED lighting has a lifetime up to 20,000 hours. That is the equivalent of 20 years!

19% of all energy used in households in Ireland is for water heating!

Using a games console for 3 hours will use 0.42 kWh. This is equivalent to watching a modern LED TV for 14 hours – longer than it takes to fly from Dublin to LA!



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Almost every home has ways it can save energy through heating; but you can do your part! With an adult's permission become an energy detective, follow the steps outlined below and complete a household heating audit to find specific areas in your home where you can save energy!



Household Lighting Audit

Making sure your home has the most energy efficient light bulbs is important as there are often lots of lights around the house, and they are used for long periods of time, adding up to wasted electricity.

Walk around the house and conduct a household lighting audit. Follow each step outlined below and record what you find in the table:

- Go room-to-room and count the number of lights you have in each room
- Check to see if lights are left on in empty, un-occupied rooms
- With an adult, examine each lightbulb in your home and check to see if it is an energy-efficient LED bulb. If you're unsure what an LED bulb looks like, look at our examples to the right to see what common bulbs look like in your home



Halogen



LED



CFL

ROOM	NO. OF LIGHTS	TYPE OF BULB	SWITCHED ON?
Bedroom(s)			
Kitchen			
Bathroom			
Living Room			
Other			

Review your findings making a list of key ways to save energy through lighting in your home (these can be areas with lots of lights, or areas that have old halogen lightbulbs) and share these with your family. You could create and design posters to put up around your home reminding your family to switch off lights, or put up reminder stickers



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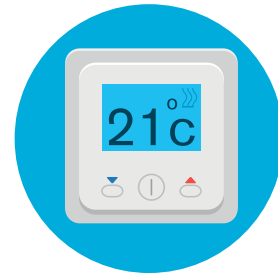


Household Heating Audit

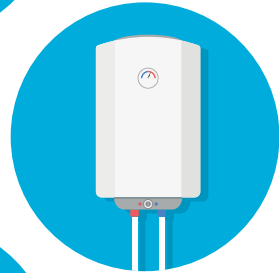
Having an efficient heating system is one of the most important steps you can take to reduce your household energy usage

Walk around the house and conduct a household heating audit. Follow the steps and record what you find in the table below:

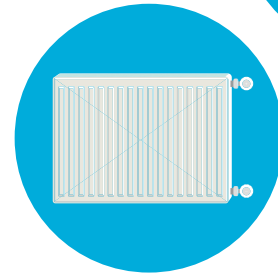
- See if any empty, un-occupied rooms are being heated
- Make a list of what heating appliances are in each room. These can be anything from a radiator to a portable heater, or a heated blanket to heated clothes drier
- Check that your heating appliances are clean and dust free
- See if your heating appliances are being blocked by anything, this could be by large furniture and / or covers
- If it's a cold day, look to see if your family are dressed up warm
- If it's a sunny day check to see that curtains are open, and your family are letting the sunshine (and heat) in!
- Ask an adult to check your home's thermostat is set between 18 °C to 21 °C
- Ask an adult if they know when your home boiler was last serviced, and radiators drained



Thermostat



Boiler



Radiator

ROOM	HEATED?	HEATING APPLIANCE(S)	OCCUPIED?	CLEAN?
Bedroom(s)				
Kitchen				
Bathroom				
Living Room				
Other				

Review your findings making a list of key heating improvements that can be done in your home and share these with your family. With an adult's permission, you could ask to turn down the thermostat by 1 °C and see if anybody in your family notices!



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Household Appliance Investigation

Our homes are full of energy-using appliances. There are lots of different appliances in our home such as:

- Wet appliances like washing machines, dishwashers, and tumble dryers
- Cold appliances like fridges and freezers
- Consumer electronics like laptops, TVs, chargers, and game consoles
- Cooking appliances like hobs, oven, kettle, and microwave

Appliances can be using energy even when you're not using them. For example:

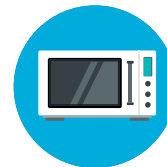
- TVs, computers, games consoles, monitors, all use energy whilst in standby mode. In standby mode your appliance is neither on, not off; but still plugged in and using energy
- Your microwave still consumes energy when not in use if it is plugged in and turned on at the socket
- Phone and tablet chargers still plugged in at the wall still draw power and consume energy

Walk around the house and conduct a household appliance audit. Follow the steps and record what you find in the table below:

- Make a list of appliances you have in each room (e.g., TV, games console)
- Count the number of appliances that are plugged in when not in use. Look for bright little lights on appliances. These are standby lights, and they show that your appliance is in standby mode
- Ask an adult whether they use the eco-setting or energy saving feature on appliances like the washing machine or dishwasher
- Ask an adult whether they know the energy efficiency rating of individual appliances



Laptops & Monitors



Microwave



Game consoles

ROOM	APPLIANCE(S)	NO. PLUGGED IN	ECOSETTINGS	EFFICIENCY RATING
Bedroom(s)				
Kitchen				
Bathroom				
Living Room				
Other				

Review your findings making a list of when appliances are using energy even when you're not using them and share these with your family. You could try to minimise your own use of energy-using appliances by challenging yourself to a power down day where you try to spend an entire day without using any electricity!



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Household Draught Audit


Draughts are currents of cool air that flow through a room. Draughts usually enter your home through cracks and gaps in floors, walls, open doors among others. You can picture this as your house 'leaking' warm air, wasting heat and energy. It is important these draughts are covered to reduce energy loss!

Check for draughts in your home. Go room-to-room and perform a visual inspection to detect any draughts. Follow each step outlined below and record what you find in the table:

-  See if any internal doors have been left open
-  Look to see if windows have been left open when the heating is on
-  Check for daylight around door or window frames



ROOM	DRAUGHTS DETECTED
Bedroom(s)	
Kitchen	
Bathroom	
Living Room	
Other	

 **Review your findings making a list of all the draughts you have detected in your home and share these with your family, reminding them to shut windows and internal doors.** You could also get creative and make DIY draft excluders with an adult to draught-proof window frames and doors. All you will need are some old tights and some stuffing (e.g. newspaper), and a teddy bear. Stuff tights with stuffing and place the teddy at the seat of the tights. You can place these in front of doors and window frames to keep the cool air out and warm air in!