



WELCOME TO THE STUDENT-LED HOME ENERGY REVIEW!

Name: _____

This exercise gives you the opportunity to learn more about the things that consume energy in your home. You'll be taking an inventory of the products, devices, and technologies in your home that use energy, which will help you identify ways you and your family can make improvements to reduce your energy use.

This exercise will take about 20 to 30 minutes to complete. We recommend having your parent/guardian complete it with you.

Before you get started, here's a list of things you'll need:

- The flow bag from your kit
- The flashlight from your kit or a phone with a flashlight

Are you ready?

Let's get started!



THERMOSTATS

First, locate the thermostat in your home. A thermostat controls your heating system and manages the indoor air temperature of your home. Different types of thermostats have different settings. There are three main types of thermostats: manual, programmable, and smart.

1) What type of thermostat do you have?



Manual thermostat

Requires you to physically adjust the temperature using a button or dial



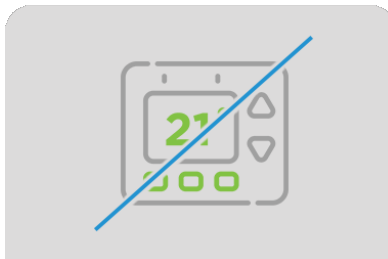
Programmable thermostat

Allows you to pre-set the temperature to increase or decrease during specific times on specific days



Smart thermostat

Wi-Fi connected. Can be programmed and controlled by a smart device (phone or tablet)



I'm not sure / I don't have a thermostat



If you have a manual thermostat:

2) In the winter, do you turn your thermostat DOWN overnight and/or when you leave the house during the day?

- Yes
- No

3) In the summer, do you turn your thermostat UP overnight and/or when you leave the house during the day?

- Yes
- No

If you have a programmable or smart thermostat:

2) In the winter, do you program your thermostat to DECREASE the temperature overnight and/or when you leave the house during the day?

- Yes
- No

3) In the summer, do you program your thermostat to INCREASE the temperature overnight and/or when you leave the house during the day?

- Yes
- No

We don't need our home to be as warm in the winter or as cool in the summer when we aren't at home or when we're sleeping. In the summer, increasing the temperature by 3°C or more for at least eight hours a day is an easy way to save on your cooling costs. In the winter, do the opposite and decrease the temperature by 3°C. This is easy to do with a programmable or smart thermostat, but you can also make it a habit with a manual thermostat.

LIGHTING

Lighting is another main energy consumer in your home. As you've learned already, some light bulbs use more energy than others. The most energy-



efficient types of light bulbs are LEDs. LEDs last up to 25 years and use 80% less electricity than traditional incandescent bulbs. Every LED you install can save you up to \$4 per year on your family's energy bill.

4) Count the number of each type of light bulb you have in your home. Be sure to check every room!

You can skip any lights or fixtures in your home where you can't see the bulbs.

Please enter 0 if you don't have any bulbs of that type.



Incandescent

- Inefficient
- The oldest type of light bulb
- Has a filament
- Hot to the touch

Number of bulbs:



Halogen

- More efficient incandescent
- Usually tubular or compact shapes
- Very bright
- Very hot to the touch

Number of bulbs:



CFL (compact fluorescent lighting)

- Efficient
- Often seen in a spiral design
- Lasts 8 times longer than incandescent bulbs

Number of bulbs:



LED (light emitting diode)

- Most efficient
- Cool to the touch
- Lasts 25 times longer than incandescent bulbs

Number of bulbs:

Total number of bulbs in your household: _____

WATER USE

You might be wondering how the amount of water you use relates to saving energy. When you're washing your hands or taking a shower, you're often using warm or hot water. This means your water heater, which is powered by electricity or natural gas, needs to go to work. If you're able to save the amount of warm or hot water you use, you can also save energy!

5) How many showers do you have in your home?

- 0
- 1
- 2
- 3
- 4
- 5

Now you'll be using the flow bag that came in the kit you received. Instructions on how to use it are written directly on the flow bag. Read through them carefully!

Use the flow bag to measure the flow rate of the most frequently used showerhead in your home. Enter that measurement here.

6) Enter showerhead flow rate (litres per minute)



An energy-efficient showerhead uses about 6.8 litres per minute. How does your showerhead compare?

7) How many showers do you take per week?

8) How long is your average shower (in minutes)?

9) Calculate the total volume of water you use each week in litres.

(Hint: Multiply your answers to questions 6, 7, and 8)

To reduce your hot water use and save energy, try taking shorter showers. You received a shower timer in your kit that lasts five minutes; put it inside your shower and see if you can finish before time runs out. You can also save by turning the water off while you're washing your hair.

10) How many bathroom sinks do you have?

- 0
- 1
- 2
- 3
- 4
- 5

Use the flow bag to measure the flow rate of the most frequently used bathroom faucet in your home. Enter that measurement here.

11) Enter bathroom faucet flow rate (litres per minute)



An energy-efficient bathroom faucet uses about 4.5 litres per minute. How does your faucet compare?

Use the flow bag to measure the flow rate your kitchen faucet. Enter that measurement here.

12) Enter kitchen faucet flow rate (litres per minute)

Sinks might not seem like they use a lot of water, but it all adds up! Make sure you aren't leaving your faucet on when you're not using water, like when you're brushing your teeth. Keep an eye out for leaky faucets and talk to your parent or guardian about fixing them as soon as possible.

ELECTRONICS

Did you know that 17% of the average Manitoba household's energy bill goes towards powering appliances and electronics? Some electronics and small appliances even use energy when they go into standby mode. So even if you're not using them, they can still be consuming energy. We call this "standby power" or "phantom power."

When you aren't using your electronics, make sure not only to turn them off but also unplug them! Otherwise they might be wasting energy. Another great alternative is to use an advanced power strip, which shuts down devices that go into standby mode. Simply plug your main device (like your TV) into the main outlet and your other devices (like gaming consoles) into the controlled outlets. When you turn off your TV, you automatically cut power to your gaming systems. It's a simple change you can make to save every day.

Let's start by taking a quick inventory of the electronics in your home.

13) How many of the following electronic devices do you have plugged in?

TV: _____

Set-top box: _____



DVD or Blu-ray: _____

Gaming console: _____

Printer: _____

Computer: _____

WINDOWS & DOORS

Your heating/cooling system works hard to keep your home warm in the winter and cool in the summer. If your home has old windows or gaps and cracks around windows and doors, that air can escape and make your systems have to work even harder to maintain the indoor air temperature.

14) How many windows are in your home?

Take a flashlight (or the flashlight on a smartphone) and shine it directly at one of your windows. You'll see either one, two, or three spots of light appear on the glass. The more panes of glass a window has, the better its insulating properties.

- If you see ONE spot of light, your window has ONE pane of glass.
- If you see TWO spots of light, your window has TWO panes of glass.
- If you see THREE spots of light, your window has THREE panes of glass.

Repeat this test on as many windows in your home as you can.

15) How many panes of glass do most of your windows have?

- All my windows are single pane
- All my windows are dual pane
- All my windows are triple pane
- I have a mix of single, dual, and triple



ENERGY STAR® certified windows with at least triple-pane glass can help cut your energy costs, reduce condensation, and make your home more comfortable.

Now it's time to check for drafts around your windows and exterior doors. You can do a simple test to feel any air leaks by using the back of your hand. Move the back of your hand along the sides of the window and doors. If you feel air on your hand, that means there's an air leak. If you don't feel air, then your windows and doors are probably fairly airtight!

16) Are any of your windows drafty or leaky?

- Yes
- No
- I'm not sure

17) Are any of your exterior doors drafty or leaky?

- Yes
- No
- I'm not sure

If any of your windows or doors are drafty, your family might want to seal them up with sealants, weatherstripping, or window insulating film. Weatherstripping can help reduce air leaks around joints that move, such as on doors and operable windows. Sealants, such as caulking and expanding foam, are most appropriate for fixed windows. Window insulating film can be applied to the inside of your leaky windows and act as an extra pane of glass.

THANK YOU!

Thanks for completing the Generation E student-led home energy review. We hope this activity has given you some insight into how your home uses energy. Reach out to hello@generation-e.ca if you have any questions about your home energy review.