

Indigenous Communities Conservation Program

Product installation guide

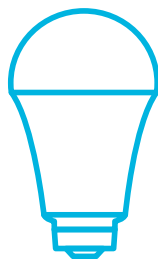
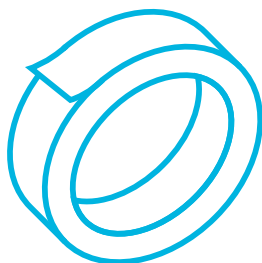
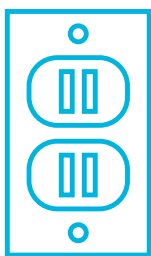


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Safety first!

For maximum energy savings and safe operation, proper installation is important.

Please read and follow the instructions carefully.

If you're uncertain about any instructions or building and safety codes, please contact an electrician or trade professional before proceeding.

IMPORTANT THINGS TO REMEMBER:

- Unplug all electrical devices and appliances before working with them. For outlets and switches, turn off electricity from the circuit breaker panel.
- Use an approved ladder to reach high places, and maintain three points of contact (both feet and one hand) at all times.
- Avoid working in the attic on a hot day. Heat stress can cause accidents and serious illness.
- Ensure you have the tools and materials required for installation, including the proper personal protective equipment.

Tools and materials required

Installers will need the following tools and materials in order to review energy upgrade opportunities and install energy saving products in homes.

- caulking gun
- utility knife
- serrated knife
- scissors
- multi-tip screwdriver
- adjustable wrench
- pliers
- metal shears
- headlamp
- plastic/wood probe
- gloves
- mask
- paper towels
- clean-up cloths
- step ladder
- step stool
- hacksaw
- putty knife
- tape measure
- mineral spirits
- drill/driver and bits
- hair dryer & extension cord
- hammer

Energy saving products

The following energy saving products and quantities are available for installation in the home.

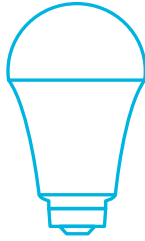
Products	Quantity per home
LED light bulbs (various bulb types available)	25
LED nightlight	1
Kitchen faucet aerator (1.5 GPM)	1
Bathroom faucet aerators (1.5 GPM)	2
High performance showerhead (1.5 GPM) and teflon tape	1
Teflon tape	¼ roll
Door sweeps	2
Backer rod (various diameters and lengths)	½ pack
Caulk	½ tube
Low expansion spray foam	½ can
Attic hatch insulation (2' x 8' hard foam board)	¼ board
Attic hatch adhesive	¼ tube
Draftproofing foam tape	1 roll
Draftproofing v-strip tape	1 roll
Window film (package could fit 2 average windows)	5 packs
Outlet gaskets (12 per pack)	3 packs
Pipe wrap for hot water tank (3' lengths) and foil tape	3
Foil tape (for pipe wrap installation)	¼ roll
Dryer rack or clothesline	1
CO monitor, fire, smoke detector all-in-one	2
Advanced power strip	1
Fridge thermometer	1

LED light bulbs

(Up to 25 per home)

TOOLS REQUIRED:

- ladder
- stool



LED lights use at least 75% less energy than incandescent lighting, and last up to 25 years based on average household use.

Maximize savings by replacing bulbs that are on for long periods of time (15 minutes or longer). LEDs are instant on and dimmable.

Most regular light bulbs with a standard socket can be replaced with an LED bulb. LED bulbs may not work in some lights, such as 3-way lamps or narrow fixtures.

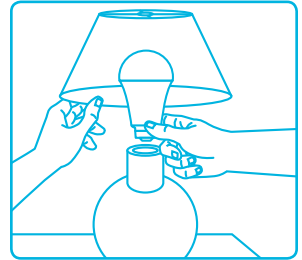
STEP 1

Unscrew the old bulb and replace it with a new LED bulb. Be careful not to break the old bulb.

STEP 2

Place the old bulbs in the protective package that the new bulbs came in.

Do not throw old bulbs in the garbage. Old bulbs, particularly compact fluorescent lightbulbs (CFLs), should be taken to a household hazardous waste disposal location so they can be properly disposed of. If there is no household hazardous waste disposal location in your area, carefully package the used CFL bulbs and ship them back to Ecofitt using the packaging and instructions provided with your order.

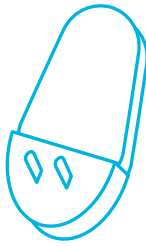


LED night lights

(One per home)

TOOLS REQUIRED:

- none



LED night lights are much more efficient than traditional incandescent nightlights. They last longer and use 90% less electricity than regular night lights.

To maximize savings, use your ultra-efficient LED night light instead of leaving a bathroom or hallway light on. Plug it in and it will turn on automatically when it's dark.

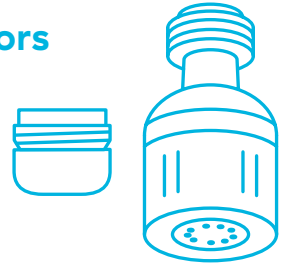
The LED night light plugs into a standard 120V electrical socket. Recycle the old night light.

Kitchen and bathroom faucet aerators

(Up to three per home)

TOOLS REQUIRED:

- pliers
- cloth



A faucet aerator slows the flow of water from a kitchen or bathroom faucet to provide an even flow of water. Low-flow aerators use up to 50% less water than older aerators. Lower water flow means less energy used for hot water heating.

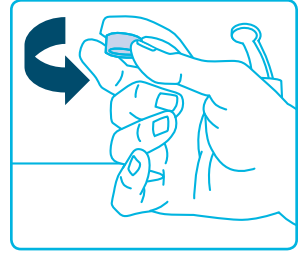
Replace any faucet aerators that use more than 1.5 gpm (5.7 L/m) flow. The flow is usually stamped on the side of the aerator. If you can't find a flow rate on the aerator, assume it is high flow and replace it.

For a video on how to install aerators, go to:

[youtube.com/watch?v=i-qhpkTEfbA](https://www.youtube.com/watch?v=i-qhpkTEfbA)

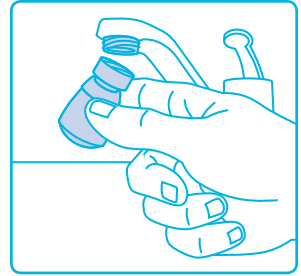
STEP 1

Unscrew the old aerator from the faucet. If it is very tight, you may need to use pliers. Wrap a cloth around the aerator before using pliers so you don't scratch the chrome.



STEP 2

If the grooves are on the inside of the aerator, place both rubber washers in the top of the aerator. If the grooves are on the outside of the aerator, use the thin washer.



STEP 3

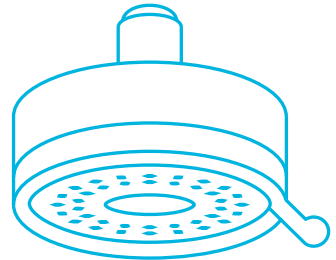
Gently screw on the new aerator and tighten carefully. Be sure not to cross threads. Test the faucet to make sure there are no drips or leaks and the flow is even.

High performance showerhead

(One per home plus teflon tape)

TOOLS REQUIRED:

- adjustable wrench
- cloth

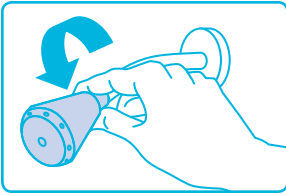


A high performance showerhead uses up to 50% less water than older showerheads. Lower water flow means less energy used for hot water heating.

Replace existing showerheads that use more than 2.0 gpm (7.6 L/m) flow. The flow is usually stamped on the bottom or side of the showerhead. If you can't find a flow rate on the showerhead, assume it is high flow and replace it.

Some showerheads should not be replaced. Handheld showerheads attached to a hose and rain showers cannot be replaced with the high-efficiency showerheads provided.

Do not replace the showerhead if the shower is seldom used or if the home owner/occupant does not want it replaced.

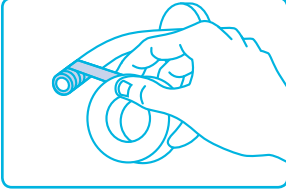


For a video on how to install a high performance showerhead, go to:

[youtube.com/watch?v=i-qhpkTEfbA](https://www.youtube.com/watch?v=i-qhpkTEfbA)

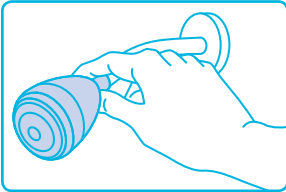
STEP 1

Unscrew the old showerhead and briefly turn on water to rinse out the pipe.



STEP 2

To prevent leaks, clean the threads on the outside of the pipe, then tightly wrap with the teflon tape clockwise around the end of the pipe 3–4 times.



STEP 3

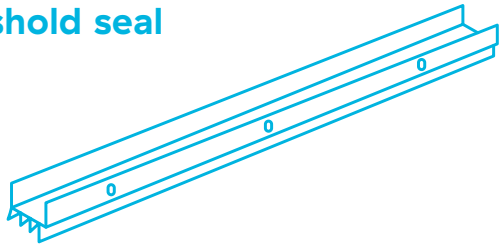
Screw on new showerhead and tighten carefully with the wrench.

Door sweep/Threshold seal

(Two per home)

TOOLS REQUIRED:

- screwdriver
- hacksaw



A door sweep or threshold seal (sometimes called a threshold bumper) seals the bottom of the door and prevents cold drafts from coming under the door. A door sweep goes on the bottom of the door, while a threshold seal goes on the outside door sill.

A new door sweep/threshold seal should be installed if the existing one is damaged or one is not installed. If the existing sweep or seal is in good condition but not sealing the door, it may be possible to adjust it rather than installing a new one. Adjust an existing sweep by loosening the screws and sliding it up or down. Adjust a door threshold by removing the screws and relocating it tight against the door.

There are many types and sizes of door sweeps, and it may not always be possible to install the ones you have. Sometimes the gap under the door is too big for a sweep or seal to fill. Check the new one will fit before removing the old one.

STEP 1

Cut the new sweep/seal to length with a hacksaw.

STEP 2

Unscrew the old sweep/seal and install the new one in its place. The screws on a sweep usually go through a slot which allows the height to be adjusted. Adjust the sweep height so it fills the space under the door before tightening the screws. A door threshold should be snug against the door before screwing it down.

Backer rod

(Various diameters and lengths, cut to fit)

TOOLS REQUIRED:

- putty knife
- utility knife

Backer rod is a length of round, solid foam used to fill gaps and stop air leaks.

It is available in various sizes, including 3/8" and 3/4" diameter and up to 30' in length. Backer rod saves energy by reducing air leakage.

Use backer rod to fill large gaps and cracks that are too big to be filled by caulk. It is less messy than spray foam and doesn't drip so it's a good choice for ceilings. Sometimes it may be appropriate to fill a crack with backer rod and then cover it with caulk for a better appearance. Spray foam works well in uneven gaps.

For a video of how to install a backer rod, go to:

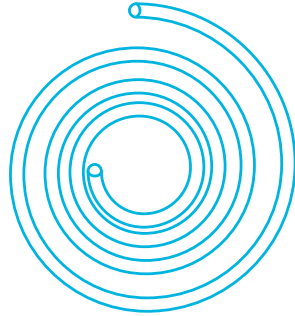
todayshomeowner.com/video/how-to-caulk-wide-cracks/

STEP 1

Select a size of backer rod that is a bit larger than the gap you want to fill and cut the rod to the length required.

STEP 2

Push the rod into the gap with your finger so it fits in snugly. You may need to use a putty knife to help push the rod in for smaller sizes.

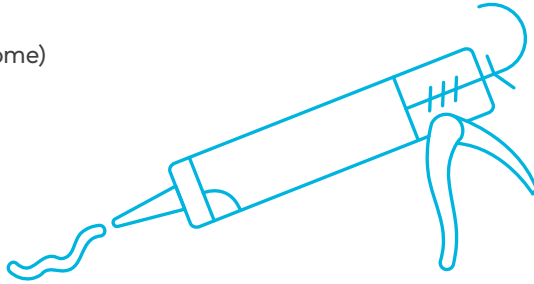


Caulk

(Up to one tube per home)

TOOLS REQUIRED:

- caulking gun
- utility knife
- damp cloth
- rubber gloves
- paper towels



Caulk is used to seal all kinds of cracks and joints in a house. It is one of the most important products for sealing cracks where air can leak in. Elastomeric caulk is preferred, as it is waterproof and flexible, so it won't crack over time. For high temperature applications (heating ducts, chimney flues, etc.) a high temperature caulk must be used.

Caulk is used to seal small cracks and holes, such as around windows, wall joints, or duct penetrations. For larger gaps, backer rod or spray foam will be a better choice.

Black, white, and clear caulk is the most common colors. Choose the colour most appropriate for the area being filled.

For a video on how to install caulk, go to: [youtube.com/watch?v=jufcpLs-Hkk](https://www.youtube.com/watch?v=jufcpLs-Hkk)

STEP 1

If using a new tube of caulk, cut a small opening in the tip with a utility knife. Poke a stiff wire into the tip to break the seal.

STEP 2

Place the tip against the crack at an angle and squeeze the trigger to push the caulk out. Move the tip along the crack steadily for a nice, neat line.

STEP 3

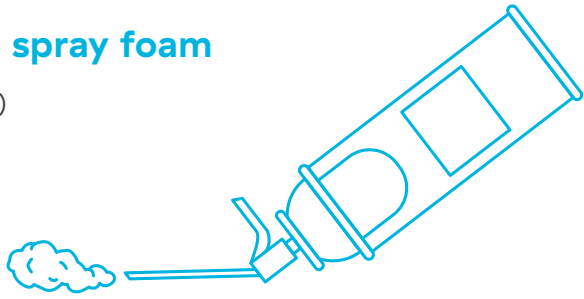
Clean up the area using a damp cloth or a wet finger. When you are done, immediately release the trigger on the gun. This will prevent excess caulk from coming out and dripping on the floor.

Low-expansion spray foam

(Up to one can per home)

TOOLS REQUIRED:

- rubber gloves
- paper towels
- serrated knife



Spray foam is used for filling large and irregularly shaped gaps and holes. It comes in an aerosol can and expands once it's in place. Low-expansion foam is generally preferred as it is less likely to over expand.

Use spray foam to fill large gaps or irregularly shaped holes which are too large for backer rod. The most common use is for pipe penetrations under sinks or in attics.

Spray foam can be ugly and should be avoided in areas where it can be seen easily, such as living rooms. Avoid using it overhead, where it can drip and fall out.

For a video on how to install spray foam, go to: youtube.com/watch?v=qxEuetgHBWU

STEP 1

To start, screw the nozzle onto the tip of the can. Then shake vigorously for 30 seconds or more.

STEP 2

To apply the spray foam, hold the can upside down and pull the trigger. It's important to hold it upside down, or the gas will escape and much of the can will be wasted. Be careful—it's easy to apply too much foam.

STEP 3

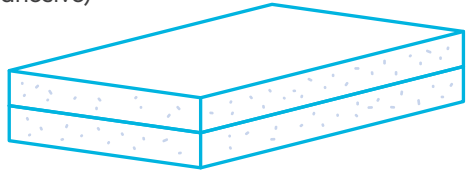
When finished, place the can upright on a piece of newspaper. Some foam will usually continue to come out and the newspaper will catch any drips. Any drips or mess can be wiped up with a wet paper towel while the foam is still wet. Once it's dry it is very difficult to remove. After the foam is dry, it can be cut with a serrated knife to make it neater.

Attic hatch rigid foam insulation

(2' x 8' hard foam board, cut to fit, plus adhesive)

TOOLS REQUIRED:

- tape measure
- utility knife
- ladder



Rigid foam insulation can be added to the hatch to reduce heat loss and energy use. The insulation comes in sheets which can be cut into smaller pieces, and is usually 1–2" thick.

Rigid insulation can be added to any attic hatch that is not already insulated. Ideally there should be as much insulation on the hatch as in the rest of the attic, but this is not usually realistic, as the hatch will become too bulky and awkward to open. One or two layers of insulation will usually do the job.

STEP 1

Measure the hatch carefully before cutting. Cut the rigid foam 1" shorter than the hatch in both directions. This will allow the hatch to tilt so it can be removed.

STEP 2

Dust the hatch off and wipe it with a damp cloth so it is clean. Spread adhesive on the hatch and stick the rigid foam to the hatch. Make sure the insulation is centered on the hatch with ½" space on each side.

STEP 3

Repeat with the second layer of insulation, if applicable. Let the adhesive dry for a couple of hours if possible before putting the hatch back in place.

STEP 4

Add foam weatherstripping around the perimeter of the hatch, if/as needed.

Weatherstripping: foam tape & v-seal strip tape

(One to two rolls per home)

TOOLS REQUIRED:

- putty knife
- cloth
- mineral spirits
- scissors

Weatherstripping is used to fill gaps and cracks where doors and windows close providing a tight seal so air can't leak in. It comes in a variety of sizes and types for different situations.



Foam tape is the most common and is either open or closed cell. Open cell foam is soft and compresses easily. It's best for small or uneven cracks and gaps. Closed cell is much stiffer and should be used for larger gaps or where the door is heavy enough to compress it.



V-seal tape looks like a folded piece of plastic tape. It's used to seal small cracks and gaps, particularly where the door/window slides over top and might damage foam tape. It can also work where the gap is uneven.

Install weatherstripping on doors and windows where the weather stripping is missing or damaged, or where the door/window doesn't seal tightly. Check doors by closing them and looking from the inside for light coming through.

Windows and sliding glass doors that seal tightly may not require weatherstripping as it may make the window/door hard to close. However, hinged doors should almost always have weatherstripping.

Attic hatches and doors to unheated basements should also be weatherstripped.

For a video on how to install weatherstripping go to: [youtube.com/watch?v=fy6SCi7iKgE](https://www.youtube.com/watch?v=fy6SCi7iKgE)

STEP 1

Decide which type and size of weatherstripping will work best, depending on the size and evenness of the gap. Make sure the door/window will close after the weatherstripping is installed.

STEP 2

Clean the window/door frame with the wet cloth and make sure it is dry before applying the tape. You may need to use a putty knife or mineral spirits to clean of old bits of weatherstripping.

STEP 3

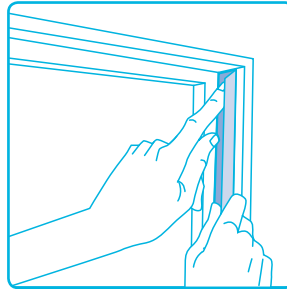
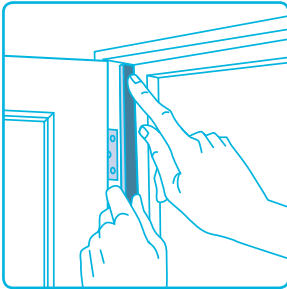
Install the new weatherstripping on the inside of the window or door frame. Measure the frame and then cut the tape to the correct length. Peel the backing paper off and press into place against the frame.

STEP 4

For V-seal tape, fold the tape in a line down the middle to create a “V” shape. When pressing it into place, the open end of the V should face the doorstep or window frame, facing away from the opening. This is particularly important for sliding doors and windows, so they can slide over the tape easily.

STEP 5

Once the tape is in place, check the door/window closes well and seals tightly. In the case of closed foam tape, make sure the foam is not too thick, pushing the door/window out and causing new gaps to appear.



Window film

(Up to five packs per home)

TOOLS REQUIRED:

- tape measure
- hair dryer
- extension cord
- utility knife

Window film is a clear plastic sheet that goes over windows to help insulate your windows to prevent heat loss and drafts. A hair dryer is used to shrink the plastic and make it smooth and see-through.

Window film should be installed on single glazed windows. It's best used on windows that don't open, as otherwise it will need to be removed each summer.

For a video on how to install window film, go to: [youtube.com/watch?v=yOhJNnAef9c](https://www.youtube.com/watch?v=yOhJNnAef9c)

STEP 1

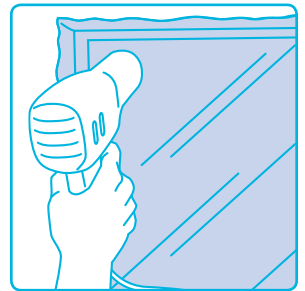
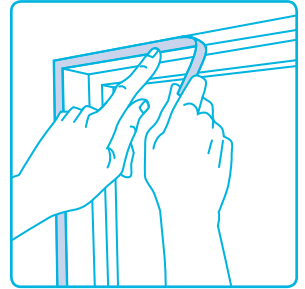
Apply double-sided tape all around the clean, dry window frame on the edges that face into the room. Cut plastic film the size of the frame, plus leave a few extra inches on each side.

STEP 2

Remove paper backing from the top of the frame, then pull film across the strip. Try not to stretch the film too far. Repeat this for the sides and bottom of the frame.

STEP 3

Use a hairdryer on low setting and move slowly across the window frame to set the film, then carefully trim film from the frame's edges.



Outlet gaskets

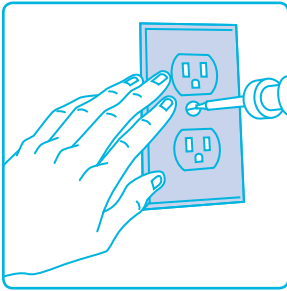
(Up to 36 per home)

TOOLS REQUIRED:

- screwdriver
- scissors

Outlet gaskets are small pieces of foam pad that go under electrical plugs and light switch covers to prevent cold drafts from coming through from exterior walls.

For a video on how to install outlet gaskets, go to:
[youtube.com/watch?v=v2KKi995Jb4](https://www.youtube.com/watch?v=v2KKi995Jb4)

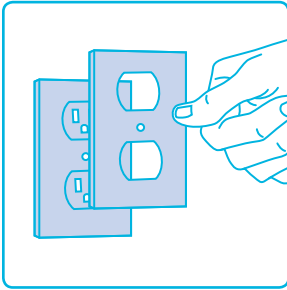


STEP 1

With the electricity off, use a screwdriver to unscrew the cover plate from the outlet or switch.

STEP 2

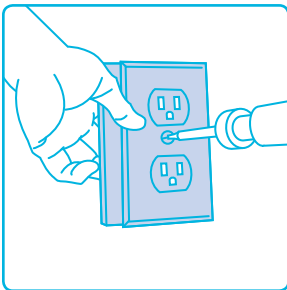
Place a foam gasket on the outlet or switch. Cut off any excess material.



STEP 3

Gently reattach the cover. Be careful not to screw the cover plate on too tightly, or sometimes it may crack the plastic.

For double outlets and switches you may need to cut the foam pad with scissors to make it fit.



Pipe insulation

(Up to 9' per home, plus foil tape)

TOOLS REQUIRED:

- utility knife
- gloves

Pipe insulation goes around water piping at the hot water heater. It helps prevent heat loss from the pipes and hot water tank.

Foam insulation is sized for different pipe sizes (e.g. ½", ¾"). It has a slit down one side so it can be placed over the pipe. The edges of the slit are usually sticky so they can seal together once the insulation is in place.

Pipe insulation should be installed anytime the hot or cold water pipes leading from the hot water tank are not insulated.

Only the first few feet (about 3') of pipe from the water tank need to be insulated. This is because hot water is not always running through the pipes, so there is no need to insulate them. But heat from the hot water tank will escape up the pipes close to the tank. This is why we insulate both the hot and cold water pipes near the tank.

Use foam insulation for electric hot water tanks, or where the piping is more than 6" away from the flue of a gas hot water tank.

For a video on how to install pipe insulation, go to:

[youtube.com/watch?v=1Ydg55gFrfg](https://www.youtube.com/watch?v=1Ydg55gFrfg)

STEP 1

Wear gloves to protect yourself from hot pipes. Determine what size of insulation you need. Measure the length of pipe and cut the insulation to the required length.

STEP 2

Place foam insulation around the pipe. Remove the backing paper from the slit and stick the two edges together to make a tight seal around the pipe. Use the foil tape to seal the insulation if the sticky edges don't seal well, or to keep it in place on the pipe.

Drying rack or clothesline

(One per home)

TOOLS REQUIRED:

- none

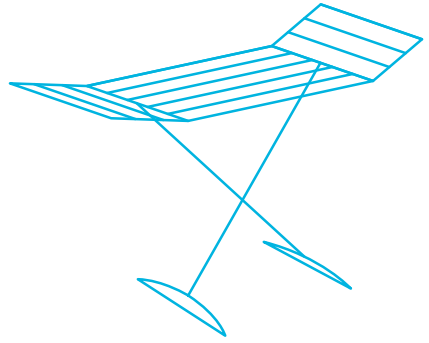
An electric dryer may account for 5% of all electricity consumption in a home.

A clothesline or drying rack can be used to air-dry clothes naturally, without using the dryer, saving electricity.

Any home can make use of a drying rack or clothesline if there is sufficient space. Clotheslines and drying racks can be installed in the laundry room for convenient use, or located outside if they are intended for outdoor use. Outside, locate the rack or line in a sunny location with good access. The sun will dry clothes rapidly even in cool weather.

Indoor drying racks are free standing and should be set up according to the instructions.

A clothesline should be installed as level as possible so clothes don't slide along the line. Attach it at each end to a solid support such as a tree or fence post. If attaching to the house, make sure you attach it to a framing member, not just to the house siding.



Smoke alarm/CO detector

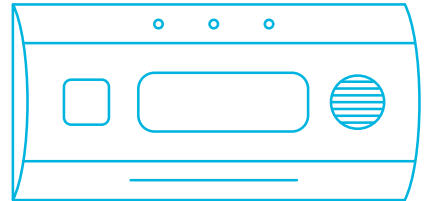
(Up to two per home)

TOOLS REQUIRED:

- drill
- screwdriver

A smoke detector is an essential safety item for any home. It will set off an alarm if there is smoke, waking the occupants and allowing them to escape the fire in time.

Carbon monoxide (CO) is a toxic gas that you can't see or smell, which can be harmful if you are exposed to it. It's produced when fuels are burned incompletely, including natural gas, propane, wood, tobacco and gasoline. A CO sensor will sound an alarm if there is CO in the house. Combination smoke/CO detectors combine the two alarms into one, which is a convenient option.



Smoke and CO alarms typically last for 10 years.

Install smoke and CO detectors whenever they are not installed, or if there are not enough of them or the expiry date has passed.

There should be at least one smoke detector and one CO detector on each level (and ideally more). Locate a smoke detector in the basement near the stairs, and upstairs near the sleeping area. Additional detectors can be located in the kitchen, living room, and each bedroom.

Locate CO detectors close to the fuel burning appliance, but also in a place where the alarm will be heard by people sleeping.

For a video on how to install go to: [youtube.com/watch?v=zoYwR-JsGvk](https://www.youtube.com/watch?v=zoYwR-JsGvk)

STEP 1

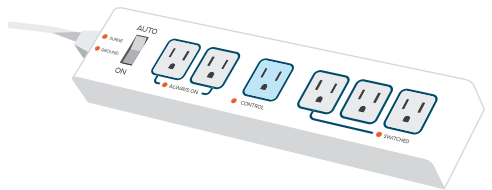
Both smoke detectors and CO detectors should be located on the ceiling or high up on the wall. The alarm should come with screws and drywall anchors for mounting. Follow the instructions for drilling holes and mounting the alarm.

STEP 2

For existing alarms, test the alarm to see if is working. If not, it may need new batteries. Check the side or back of the alarm for an expiry date, or a manufacturing date—expiry is 10 years after manufacture. If the expiry has passed, replace it with a new alarm.

Advanced power strip

(Up to one per home)



TOOLS REQUIRED:

- none

An advanced power strip expands the number of electrical outlets in your home. They work to reduce your power usage by shutting down power to electronics that go into standby mode.

Advanced power strips are best installed in homes that have high plug loads (e.g., TVs, gaming consoles, stereos and other electronics that are used frequently) and should only be installed with the permission of the home owner or occupant.

For guidance on how to install and use an advanced power strip visit: bchydro.com/powersmart/residential/savings-and-rebates/new-electricity-saving-products/advanced-power-strips.html

Fridge thermometer

(Up to one per home)

TOOLS REQUIRED:

- none

A fridge/freezer thermometer displays the temperature of your fridge or freezer so it can be kept at the ideal temperature. Many fridges and freezers are colder than necessary, wasting electricity.

For a video on how to install a thermometer, go to:

[youtube.com/watch?v=OCqx5NZ-b6w](https://www.youtube.com/watch?v=OCqx5NZ-b6w)

STEP 1

The thermometer is magnetic. Place it on the side of the fridge/freezer in a visible location. Allow 15 minutes for thermostat to adjust.

STEP 2

Check the reading. The ideal temperature for the fridge is 2° C to 4° C. If the card reads outside this range, adjust the temperature dial. Recheck the following day.

