ENERGY

Saving Energy in Your Home

It's winter and your heat is on.
Doors and windows are shut tight.
Why is it still so cold inside?

The air in your home is escaping through cracks in your foundation and gaps around the openings in your home, such as doors and windows. All of the small gaps and cracks around your home are actually a big problem when it comes to the energy efficiency of your home.

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Where is your heat escaping?

This picture shows you where air escapes from your home and where unwanted air can come in.

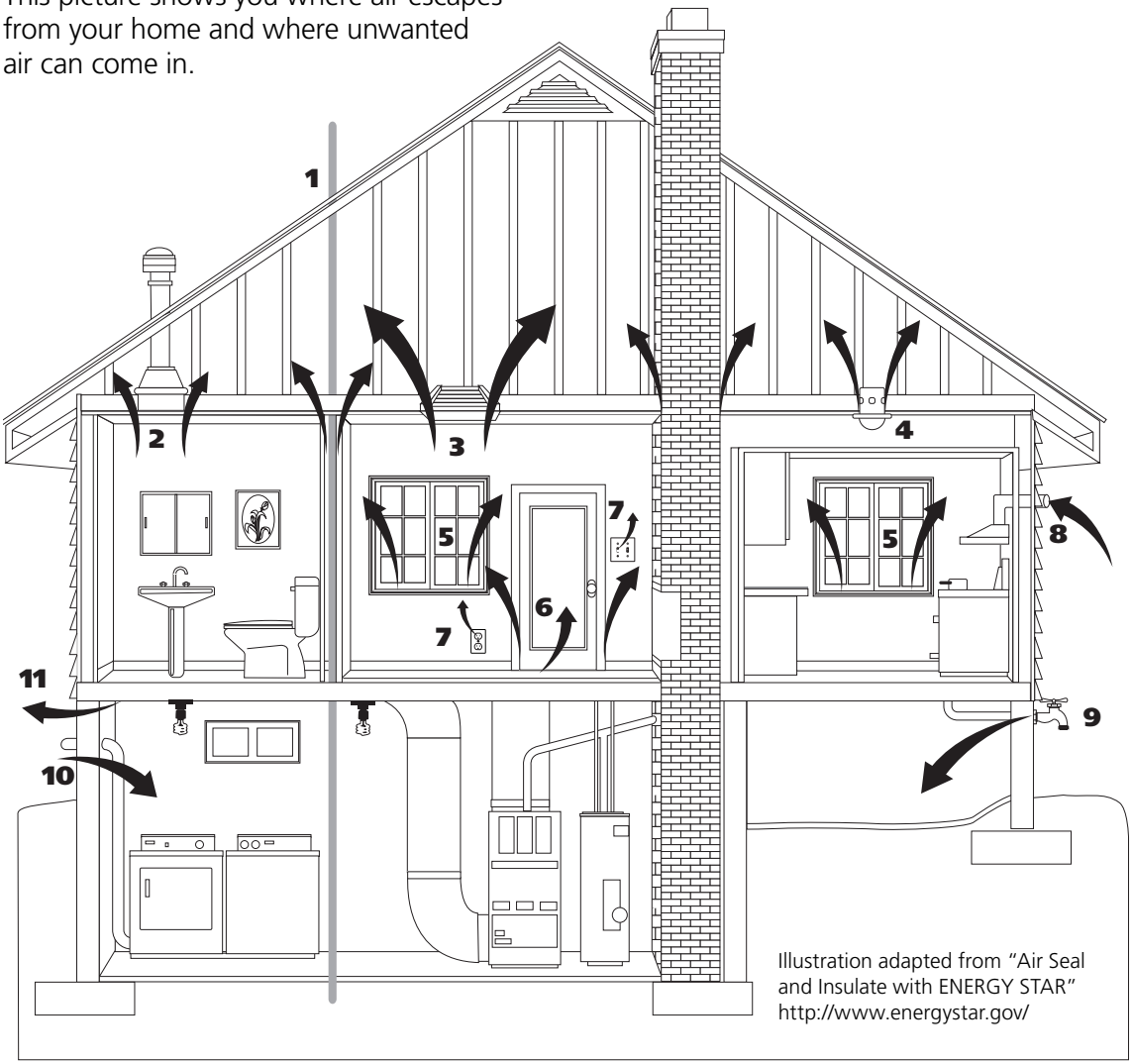


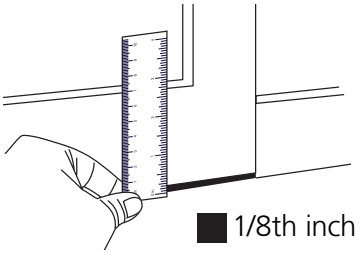
Illustration adapted from "Air Seal and Insulate with ENERGY STAR" http://www.energystar.gov/

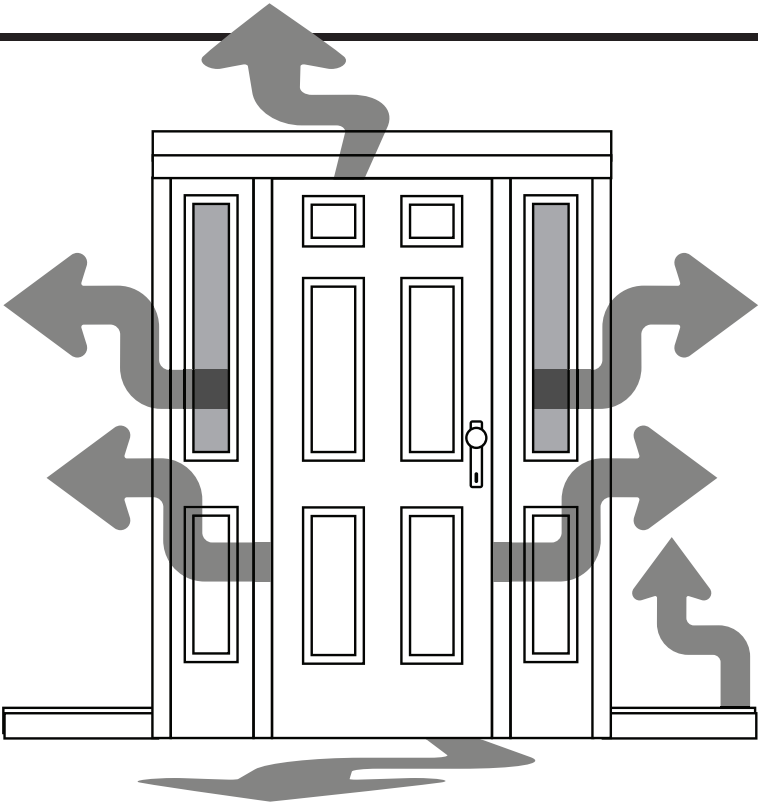
1. Plumbing stack vent
2. Bathroom fan vent
3. Attic hatch
4. Recessed lights
5. Windows
6. Doors
7. Electrical outlets and switch plates
8. Kitchen fan vent
9. Outdoor faucet
10. Dryer vent
11. Joint between different materials

How to Plug Your Cracks and Gaps:

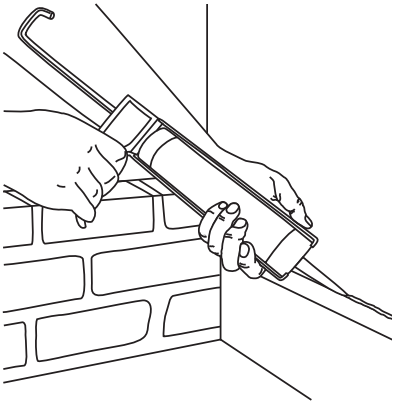
The cracks and gaps around your home can be filled with caulk to prevent air from leaving or entering it. You can use caulk to fix gaps along baseboard, gaps around windows and doors, and cracks in your walls, corners, ceiling, and floor.

A ⅛ inch gap around your door is like having a 6 inch hole in your wall!





Caulking Tips:



- Remove old caulk or paint and apply caulk to a clean, dry surface.
- Hold the gun at a 45 degree angle and apply caulk in a straight, continous line.
- Send caulk to the bottom of an opening to avoid bubbles.
- Release the trigger before pulling the gun away to avoid applying too much caulking compound.
- Apply caulk to all joints in a window frame and the joint between the frame and the wall.
- Make sure the caulk sticks to both sides of a crack or seam.
- Remove excess caulk with a putty knife.
- Reapply caulk if it shrinks overnight.

Be an Energy Detective

How to check your house for energy loss:

To conduct an inspection, close all exterior doors, windows, and fireplace flues and turn off any gas burning appliances and water heaters.

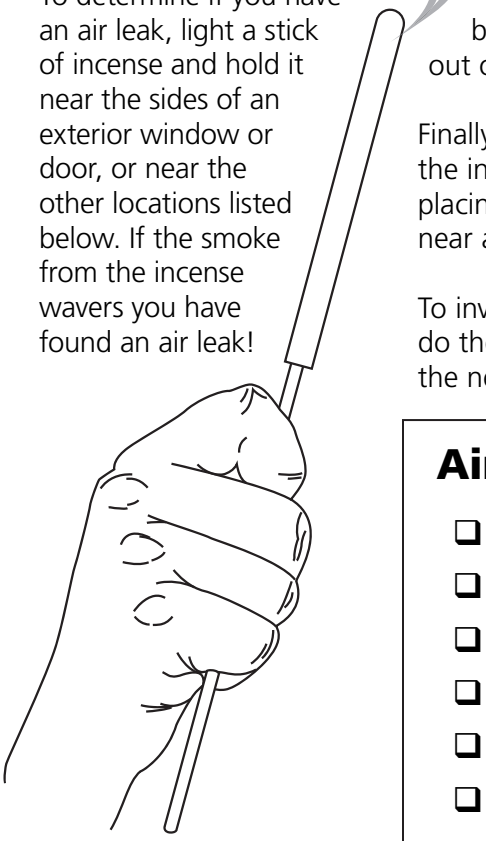
Next, turn on exhaust fans, located in the kitchen and bathrooms, or you can also use a window fan to pull air out of rooms in your house.

Finally, search for air leaks in the places listed below by either the incense method at left, or dampening your hand and placing it by the suspected locations. Your hand will feel cold near a draft.

To involve the whole family in this "investigation", have them do the dampened hand method and circle the locations on the next page where they feel a draft.

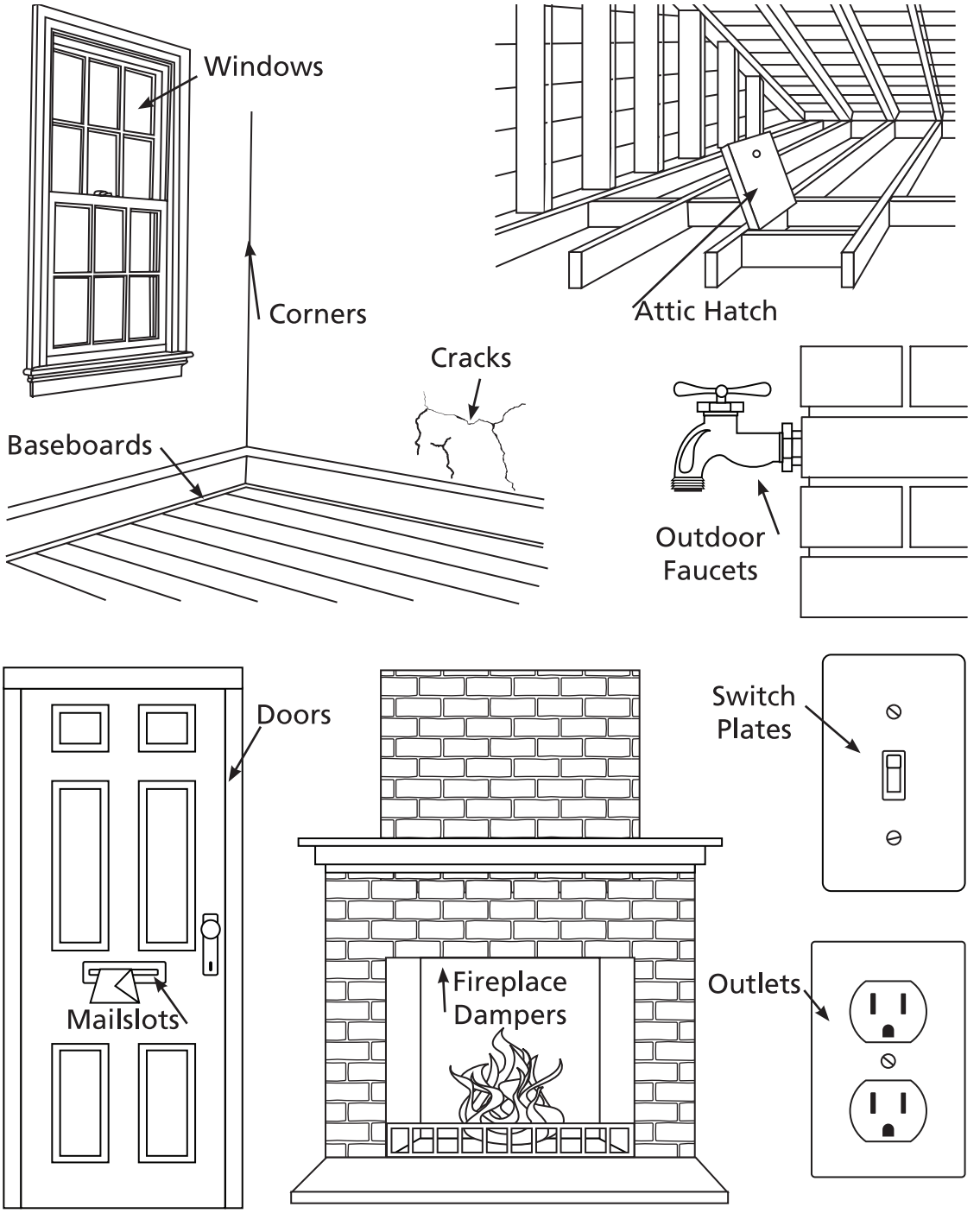
Incense Method:

To determine if you have an air leak, light a stick of incense and hold it near the sides of an exterior window or door, or near the other locations listed below. If the smoke from the incense wavers you have found an air leak!



Air Leak Suspected Locations:

- ❑ Attic hatches
- ❑ Baseboards
- ❑ Corners of rooms
- ❑ Cracks
- ❑ Doors
- ❑ Fireplace dampers
- ❑ Mailslots
- ❑ Outlets
- ❑ Outdoor faucets
- ❑ Switch plates
- ❑ Windows


Windows
Corners
Attic Hatch
Cracks
Baseboards
Outdoor
Faucets
Doors
Switch
Plates
Mailslots
Fireplace
Dampers
Outlets

Weatherstripping

You can use weatherstripping in your home to seal air leaks around movable joints, such as windows or doors.

Most common types of weatherstripping:

For Windows and Doors

Tension seal
- Self-stick plastic (vinyl) folded along length shaped to bridge a gap.

Felt
- Plain or reinforced with a flexible metal strip; sold in rolls.

Reinforced foam
- Closed-cell foam attached to wood or metal strips.

Tape
- Nonporous, closed-cell foam, open-cell foam, or EDPM rubber.

Rolled or reinforced vinyl
- Pliable or rigid strip gasket (attached to wood or metal strips.

For Doors

Door sweep
- Aluminum or stainless steel with brush of plastic, vinyl, sponge, or felt.

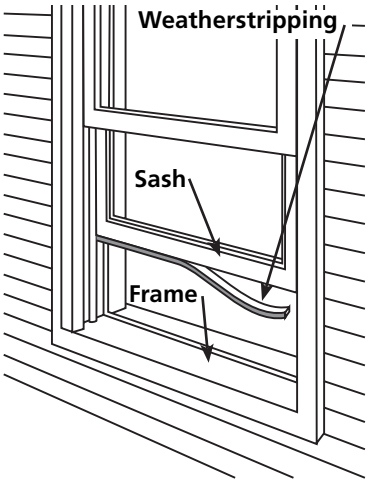
Tubular rubber and vinyl
- Vinyl or sponge rubber tubes with a flange along length to staple or tack into place.

Application:

- Weatherstripping should be applied to clean, dry surfaces in temperatures above 20°F (-7° C).
- Measure the area to be weatherstripped twice before you cut anything.
- Apply weatherstripping snugly against both surfaces. The material should compress when the window or door is shut.
- When weatherstripping doors:
- Choose the appropriate door sweeps and thresholds for the bottom of the doors.
- Weatherstrip the entire door jamb.
- Apply one continuous strip along each side.
- Make sure the weatherstripping meets tightly at the corners.
- Use a thickness that causes the weatherstripping to tightly press between the door and the door jamb when the door closes, without making it difficult to shut.

When weatherstripping windows:

- Apply weatherstripping between the sash and the frame.
- The weatherstripping shouldn't interfere with the operation of the window.

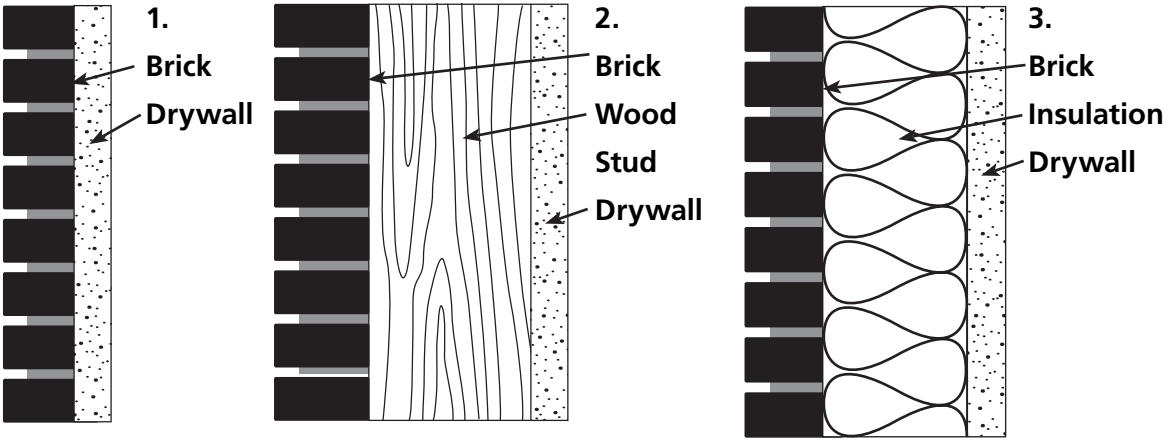


What makes up a wall?

A wall is a 'sandwich' of materials that include your home's exterior material, a wood or metal stud, and drywall. Dead air space is created between the outside part of your wall and the drywall. This dead air space helps to insulate your home and is usually filled with insulation to increase the efficiency of a home. If your home is older, however, it may not contain insulation or even dead air space!

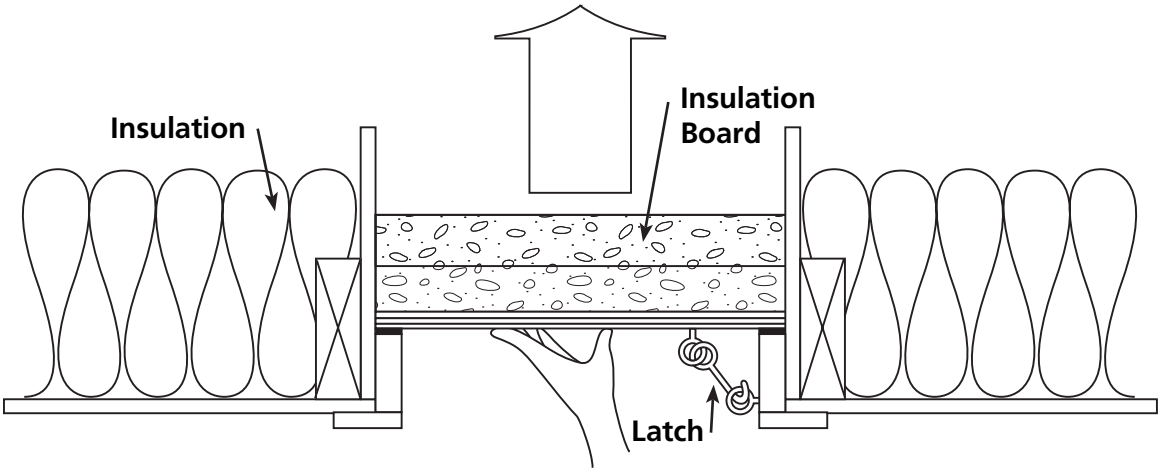
Which wall do you have?

The term R-Value refers to how well the material resists the flow of heat. The higher the R-value is, the better. Diagram 3 has the highest R-value because it has insulation. Diagram 2 has the second best R-value of these 3 because it has a dead air space to insulate it. Diagram 1 has the lowest R-value.



Adding insulation to your exterior walls can have significant price tag. Evaluate what type of wall sandwich you have and then explore your options with a professional experienced in renovation projects.

Blanket your house with attic insulation



Your attic is a major source of heat loss, if not well insulated. Here is what you can do to improve your attic's insulating abilities:

- Refill loose insulation
- Attach an insulated sheathing board to the attic hatch
- Install a latch on the attic hatch
- Check that attic vents are not blocked
- Add weather stripping to the attic hatch and the underside of the trim that surrounds the entry.

For more information on saving energy in your home, visit:

- **United States Department of Energy** http://www.doe.gov/
- **MissouriFamilies** http://missourifamilies.org/housing/
- **University of Missouri Extension** http://extension.missouri.edu/

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