

## **Closing the open window in your home**

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What would you do if you noticed an open window in your home in the middle of winter?

You would probably close it. You would be motivated by the desire to keep your home comfortable, keeping your warm conditioned air inside and the cold winter air out.

We all go through great effort and expense to be warm and comfortable in these chilly winter months and the idea of letting large amounts of unconditioned air inside our homes is unthinkable.

In fact, most homes have enough small cracks and crevices that cumulatively are equivalent to a 3-foot-by-3-foot hole, drafting expensive heated air outside, into attics and crawlspaces, while drawing cold air into living spaces. Because most of these cracks and crevices are small openings spread throughout the structure, they can be very difficult to find. You may not even know they are there.

So where are these holes?

Whether you live in a 1,000-square-foot starter home or a 10,000-square-foot mansion, each structure has its own idiosyncrasies. Yet most homes also have similarities. Time and time again leaks appear in the same places in different houses. Just as a computer technician learns through experience of repetition how to resolve computer viruses, and a car mechanic similarly recognizes how to get your car running, an experienced home weatherization technician can locate your leaks.

A good place to start is in the ceiling of the top level of your conditioned area. Hot air rises and will escape into the attic above. The attic tends to draw air into it in the same manner a chimney pulls smoke up its flue. The ceiling that separates the conditioned area from attic space contains lighting, fans, smoke detectors, HVAC supplies and returns, and an attic access.

Each is a penetration through the ceiling into the attic, and each represents a place where warm air is leaving your living space. All these places should be identified and sealed.

Next, examine your fireplace. We can all imagine the quantity of air that moves through a chimney when the damper is open. The chimney can act as an active conduit for your conditioned air to flow to the outside. There are several strategies for fixing this superhighway of escaping air, including installing top-mounted dampers and chimney balloons. The potential carbon monoxide issues make the safe repair of the fireplace of primary importance — you don't want to create a health hazard for yourself or a future homeowner. Please consult a professional.

Your crawlspace has penetrations overhead that also need sealing. Often, by closing the holes in the ceiling of the top level of your home, the holes in the crawlspace become less active because air is not being pulled out through the attic any longer. Nevertheless, these holes are a source of unwanted, often dank, unconditioned air entering your living area. Bathrooms are often the cause of many of the largest crawlspace holes. Locate the plumbing from below and seal all associated air gaps. Heating and air-conditioning equipment also can be the site of holes through the crawlspace. It is best to have a weatherization professional or an HVAC contractor seal these.

Keep in mind that this is a sampling of typical home leaks, not a comprehensive list. The benefits of sealing your home are worth the effort. Your home will be cozier with fewer temperature disparities from room to room. There is a handsome payback from your reduced utility bills. And you will be pitching in to improve our environment.