

## DUCT, DUCT, OOPS

In houses with forced-air heat, 20 percent of the heated air leaks out of holes and gaps in the ductwork. Sealing the connections between ducts conserves fuel — but never use duct tape, which loses its grip when it's heated. Either use aluminum tape or apply mastic sealant to the seams with a paint brush.



## HELPFUL WEB SITES

To find gaps in your basement where cold air leaks in, it's helpful to look for spider webs. Spiders tend to spin their webs near holes that lead outside.

**Install an Energy-Star-rated programmable thermostat.** Along with plugging leaks, it's one of the best moves you can make in the off-season to save on heating bills. They cost about \$50 and can save you maybe \$200 a year on heating and air-conditioning costs.

**Seal cracks and holes in your basement** using caulk for small ones (up to 1/4 -inch thick) and expanding spray foam for bigger ones. Pay special attention to gaps along the boundary where your foundation meets your house and to the entry points for pipes and utility lines.

## Consider a new furnace.

If yours doesn't heat the house comfortably, plugging leaks might be all it takes solve the problem. But if your furnace is more than 10 or 15 years old, it's worth calculating how quickly a more efficient model would pay for itself in fuel savings. Visit [go.philly.com/furnace](http://go.philly.com/furnace) to link to a calculator.

## Seal leaky windows and doors.

Use caulk and rope caulk to seal out cold air around windows. Replace broken glass, and reglaze any panes that need it. Caulk, V-seal, door sweeps and other weatherstripping can provide a tight seal for doors.

## Plug holes and add insulation in your attic.

Make sure to seal cracks and gaps before you insulate because even small holes in the roof can mean big heat loss. For insulating, consider hiring a pro to get the details right on tricky matters like ventilation and fire safety.