

the family  
**handyman**

**15**

**THINGS  
EVERY  
HOMEOWNER  
MUST KNOW**

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**DIY Repairs,  
Tips & MORE!**

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EVERY  
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# 1. PUSH A BUTTON, SAVE \$100

## Don't call for a repair until you check for power

Repair technicians report that a huge percentage (up to 30 percent!) of their service calls require only the push of a button or the flip of a switch to restore the electrical power.

That costs the homeowner a minimum service charge (typically \$50 to \$100), plus embarrassment. Here's how to make sure that doesn't happen to you.



## Press the reset button on GFCIs

Sometimes all the bathroom outlets or several exterior lights are powered through a single GFCI located in one bathroom or elsewhere, such as in a basement.

Simply push the reset button on the GFCI and you could be back in business.

Voice of experience

*It's happened a million times: The only 'repair' I make is to plug in the unplugged appliance. But I still have to charge for the service call.*



Costas Stavrou,  
appliance repairman  
and *The Family Handyman*  
Field Editor



## Check the breaker

When a light goes out or a switch doesn't work, you should first check the main electrical panel for a tripped circuit breaker. Look for a breaker switch that's not in line with the others. That means it's tripped. Switch it to the off position and then back on.



## Check the temperature dial

Make sure the temperature control dial in your fridge or freezer hasn't been turned way down. Curious kids may have messed with it, someone may have bumped the knob or it's just set too low. Also make sure the vents in the fridge and freezer compartment aren't blocked by food containers—these vents supply the flow of frigid air.

## Reset the disposer

All disposers have an overload feature that automatically shuts off the power when the motor becomes overloaded and gets too hot. Once the motor cools, simply push the reset button on the side of or under the unit.



## Check the outlet

If any electronic item suddenly won't turn on, don't immediately assume it's broken. Plug in a radio or a lamp to make sure the outlet is working.



## 2. MAKE APPLIANCES LAST

### Bad habits cost you— good habits save thousands

Appliance repair technicians and salespeople often say the same thing: “If people treated their appliances right, I’d have to find a new line of work.” So if you want to keep them employed (at your expense) ignore these pages. Otherwise, read on and save big.



#### Don't overload your washer or dryer

You may think you're saving time, water or energy by cramming more clothes into your washer and dryer. But overloading any washer or dryer causes damage to motors, belts and other moving parts. Some of the repairs are so expensive that you're better off buying a new machine.

#### Clean fridge gaskets

If you keep your refrigerator door gaskets clean, they'll seal properly and last the life of the fridge or freezer. But if you let sticky foods like syrup and jam build up on the door gasket, they'll glue the gasket to the frame.

Pulling harder on a stuck door eventually tears the gasket, and that'll cost you \$100 or more. Plus, if the door doesn't seal properly, the fridge has to run longer, and that'll boost your electric bill. Clean the door gasket with warm water and a sponge. Don't use detergents; they can damage the gasket.



#### Don't drag clothes out of the washer

Dragging a heavy bundle of clothes in or out of a front-loading washing machine may save your back, but zippers and buttons gradually tear up the door gasket. It's just a piece of rubber, but it costs \$100 or more. So lift out the wet clothes.



## Don't slam appliance doors

If you continually drop or slam the lid to your washer or dryer (top or front load), you're going to break the lid/door switch. That'll cost you at least \$100. Avoid this repair by lowering the lid and gently closing the door.



## Clean the lint filter

A clogged lint filter means clothes dry slower while the machine works harder and wastes energy. If it gets bad enough, this will lead to repairs or even complete replacement of the dryer. Avoid all of this simply by cleaning the lint filter after each load.



## Don't block air vents

Freezers and refrigerators require proper airflow inside the compartments to keep foods at the right temperature. Blocking the vents (often at the back of the compartment) can cause cooling problems and force the compressor and fans to run overtime. At best, that wastes energy.

At worst, you'll have to replace the appliance. So think twice before you jam warehouse-size packs of frozen food into the freezer.

## Clean the refrigerator coils

Dust buildup on the coils underneath or on the back of your fridge reduces airflow and wastes energy. Worse, it leads to repairs that may cost more than a new fridge. That's quite an incentive to vacuum the coils every six months.



## 3. SAVE WATER

### And buckets of money

Shrinking supply and growing demand are driving water bills up. Add the cost of heating water and rising sewer fees and you can see how thousands of wasted gallons turn into hundreds of wasted dollars. You can save water by fixing drips and leaks. But in most homes, replacing water-wasting fixtures results in the biggest savings. Those savings depend on your local water costs; the estimates given here are based on average costs.



#### Efficient (but effective) toilets

A toilet manufactured before 1994 wastes almost \$100 per year, compared to a modern, efficient model. A toilet made before 1980 wastes almost twice as much. The cost of a new toilet, plus installation, is typically \$200 to \$400—so your return is 25 to 100 percent per year, guaranteed. (Try to match that on Wall Street!) Unlike earlier models, which often required double-flushing, most of today's water-saving toilets do their job in one flush.

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If your home was built before 1994 and still has the original plumbing fixtures, you're using 30 to 40 percent more water than a comparable new home.

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#### Low-flow showerheads

Showerheads are not only the second-heaviest water user but also major energy eaters. That's because 70 percent of the water flowing through the head comes from your water heater. By reducing both water consumption and water heating, a low-flow showerhead can pay for itself in just one month! And an efficient showerhead no longer means settling for a drizzle instead of a downpour. Many water-efficient showerheads change the shape and velocity of the water stream—even the size of the drops—to provide the high-flow feel.





Moen

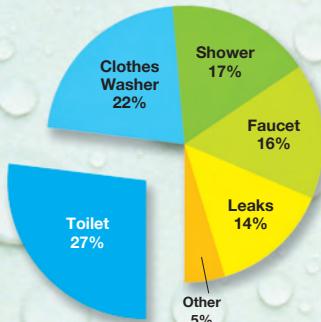


## What about kitchen faucets?

Efficiency in kitchen faucets is a matter of debate. Some say more efficient is always better. Others say that in the case of kitchens, low-flow is bad; it just takes longer to fill the sink or a pitcher. For now, the naysayers have the upper hand. WaterSense doesn't rate kitchen faucets and few low-flow models are available.

## Where's the water going?

Bathrooms use more water than any other room. More than a quarter of household water is literally flushed down the toilet.



Source: American Water Works Association Research Foundation, "Residential End Uses of Water," 1999

Water drop background image: Eduardo Barcellos/Getty Images



## The badge of efficiency

Just look for the WaterSense logo. To earn this label, products must use at least 20 percent less water and still perform as well as or better than other products in that category. Go to [epa.gov/watersense](http://epa.gov/watersense) for more info. Some utilities are even offering rebates to sweeten the deal.

Visit [http://epa.gov/watersense/rebate\\_finder\\_saving\\_money\\_water.html](http://epa.gov/watersense/rebate_finder_saving_money_water.html) to find rebates in your area.



Pfister

## Water-saving bath faucets

Like showerheads, efficient faucets save both water and energy. So—for a family of four—an efficient faucet will typically pay for itself in just a year or two and continue to save money for many more years. Most water-saving faucets use special aerators that increase airflow to compensate for decreased water flow, giving you the same feel as other faucets.

## 4. SAVE ON HOME INSURANCE

### Surefire ways to slash your insurance bill

You might think your homeowner's insurance is like your property taxes—a fixed expense that you just have to pay. But you can actually trim hundreds off your insurance bill, cutting your costs by 10 to 45 percent. Here's how:



#### Replace washer hoses

Washing machine hoses that leak or even burst are a common cause of water damage. Some insurance companies offer a discount of up to 10 percent on your premiums if you replace the rubber hoses on your washing machine with no-burst stainless steel hoses. In 10 minutes, you could save five times the cost of the hoses on your next bill, but this is a smart move even if your insurer doesn't offer a discount.



#### Choose a tough roof

Insurance companies offer big discounts (up to 45 percent) for tough roofing materials. Talk to your agent to learn about the exact discounts for materials other than standard asphalt. In most cases, metal roofing gives you the largest discount, but it also costs two to four times as much as standard asphalt shingles.

#### Rate raisers

Insurance companies have a long list of things that raise the likelihood of claims for them—and raise rates for you. Here are a few:

- Swimming pool, especially with a diving board
- Hot tub
- Trampoline
- Certain dog breeds, such as pit bulls and Rottweilers
- Dangerous cracks or depressions in steps and walks



## Install trouble detectors

Some companies discount your premium 2 to 5 percent for warning devices. These include battery-operated or plug-in temperature sensors (\$20 to \$60 depending on the type), which detect furnace breakdowns, and leak detectors (\$15 to \$200 depending on the model). For purchase info, search online for “leak detectors” and “temperature sensors.”



Zircon

## Choose fire-resistant siding

If you're installing new siding, install Class A rated fire-resistant materials such as metal, fiber cement shingles and clapboards, and masonry.

Using these materials can reduce your premium by up to 20 percent, especially in dry areas of the country that are more susceptible to fire damage.

Certain Teed Corp.

## Monitor your credit score

A poor credit score can increase your premium by 35 to 40 percent so keep an eye on yours (get a free credit report at [annualcreditreport.com](http://annualcreditreport.com)). If your credit score has improved since your policy was issued, have your agent recalculate your premium.

## Shop around every five years

You may get better coverage or a reduced rate with a different insurer, so it pays to check periodically.

## Think twice before filing a claim

Paying for a smaller loss yourself will almost always cost less than the premium increase you'll face later. Don't file a claim if it's worth less than \$1,000 over your deductible.

## Avoid a water damage claim

Think twice before filing a claim based on water damage, and consider paying for repairs yourself. Water damage is a red flag to insurance companies since it hints at mold elimination costs or chronic plumbing problems in the future. That can mean increased premiums.

## 5. CUT COOLING COSTS

### And still keep cool

Staying cool is expensive. Even in moderate climates, it costs a few hundred bucks per year. In hot climates, that cost might reach four figures. So reducing cooling bills is worth some effort. And as a bonus, many of the steps that cut cooling costs also save on heating.



#### Keep cool with shade

Shade from trees, trellises and vines blocks direct sunlight through the roof and windows, which is responsible for about half of the heat gain in your home. Carefully positioned trees and horizontal trellises on the east and west sides can save up to 30 percent of a household's energy consumption for heating and cooling.

#### Maintenance pays

A neglected air conditioner uses 10 to 30 percent more energy, so professional service every two to three years cuts cooling bills. Regular service also adds years to the life of the system and reduces breakdowns.



#### Clean or change filters monthly

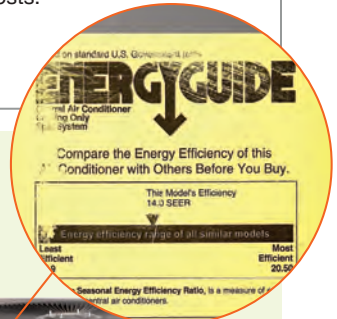
Dirty air filters are the No. 1 cause of air conditioning breakdowns and they cost about 7 percent more in energy costs in hot climates. Change central AC furnace filters monthly during the summer. Most window units have a removable filter behind the air inlet grille that you can take out and rinse monthly.





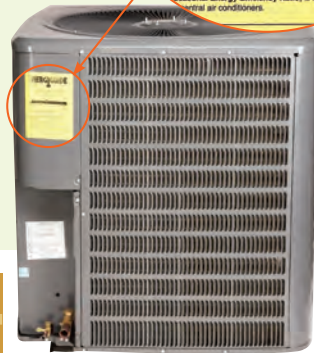
## Block out the sun

Roughly 30 percent of heat comes in through your windows. Shades, curtains or tinted window film on south- and west-facing windows can save you up to 7 percent annually. Insulating curtains will save even more on both heating and cooling costs.



## Replace an old air conditioner

Replacing a 15-year-old window or central AC unit with a new, efficient unit can save you enough over the new unit's lifetime to offset its purchase price. This is especially true if you live in a hot, humid climate. Use the savings calculator at [energystar.gov](http://energystar.gov) to figure out whether it makes financial sense to replace your AC, and get a list of the most energy-efficient units.



**Voice of experience**

*My new, more efficient, AC unit not only cut my electric bills in half, but is much quieter. My neighbors are happy and so am I.*

Gene Hamolka,  
*The Family Handyman*  
Field Editor

## Install a programmable thermostat



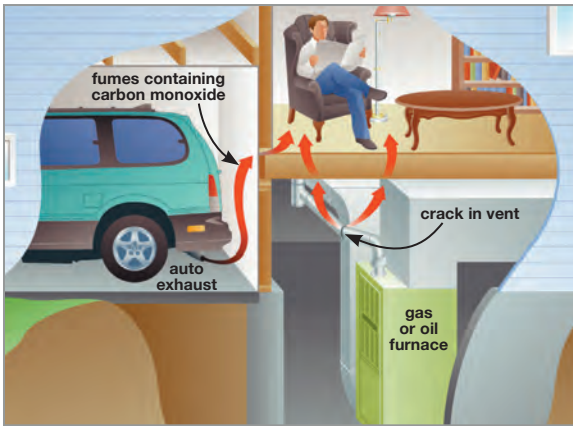
This easy upgrade pays back quickly. Setting your cooling system

four to six degrees warmer when you're away at work or on vacation and automatically lowering it to 78 degrees when you're home can cut 5 to 20 percent off your energy bill.

## 6. DETECT CARBON MONOXIDE

### It's deadly and it's in your house— but staying safe is easy

Carbon monoxide, or CO, is a colorless, odorless gas that first makes you feel sick, then puts you to sleep and then kills you. It's a normal byproduct of combustion, so it's produced by anything that burns fuel. Unless your home runs entirely on electricity, it's in your house. Here's how to protect your family.



### Sources of carbon monoxide

CO is produced by anything that runs on fuel: gas water heaters, oil furnaces, wood stoves, gasoline engines, kerosene heaters... if it burns, it emits CO.

### CO detectors are mandatory

Most things that burn fuel vent exhaust gases outside. But exhaust systems can fail, so CO detectors are the best way to stay safe. Install one on each level of your home.

Locate them in hallways near bedrooms but at least 15 ft. away from fuel-burning appliances. CO is roughly the same weight as air, so it neither rises to the ceiling nor sinks to the floor.



Install a combination combustible gas/CO detector in areas heated by natural gas space heaters.

Locate digital-display wall-mounted detectors at eye level so you can monitor the CO levels.



Install wall-mounted detectors anywhere on the wall, but at least 15 in. below the ceiling.



## Replace detectors regularly

CO detectors only have a five- to seven-year life. Listing a build date or an expiration date on the label is a fairly new practice. If there's no date on yours and you can't remember when you bought it, you're probably due for a new one.

Some models have a digital readout and a "peak level" memory retention feature. That's helpful to emergency personnel if they suspect CO poisoning. If you have small children, consider buying a talking CO detector. A voice warning is more effective than a horn at waking children.



## The signs of CO poisoning

The early symptoms of carbon monoxide poisoning resemble those of the flu. If the CO detector alarm sounds and anyone is experiencing headaches, dizziness, fatigue or vomiting, get everyone out of the house and call 911.

**Never ignore the alarm:** Don't assume all is well if no one feels ill. Open your doors and windows to thoroughly ventilate the house. Turn off all potential sources of CO.

Have a pro inspect your fuel-burning appliances and chimneys to make sure they're operating correctly and that there's nothing blocking the vents that let fumes out of the house.

## Power outages lead to CO deaths

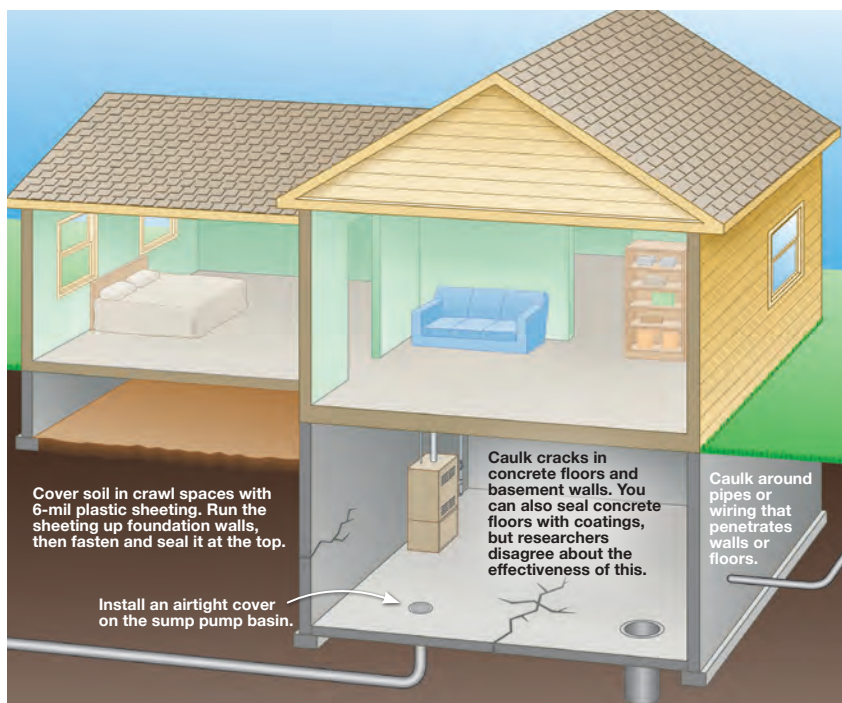
In the aftermath of natural disasters, more people die from CO poisoning than from Mother Nature's fury. When the power grid goes down, people fire up grills, generators and camp stoves—sometimes in garages or indoors. Bad idea. Use outdoor equipment outdoors only and keep generators at least 10 ft. away from your house.



## 7. RADON KILLS

### But don't panic— just do a simple test

Radon is a colorless, odorless gas, naturally occurring in almost all soils. Long-term exposure can cause lung cancer. Radon is also unpredictable. One house may have sky-high levels, while the house next door is nearly radon-free. Levels are usually highest in basements, but homes without basements aren't immune. Even in low-radon regions, a few homes have dangerous levels. So testing is the only way to know if your home is safe.



### How it gets in—and how to block it

Most radon enters homes through gaps and cracks. So sealing entry points is the best first step. Then test again. In most cases, sealing won't yield major results. But it may lower radon levels that are slightly elevated and will make a fan-powered mitigation system more effective.

## 3 ways to test

Test in the lowest area of your home that's occupied at least 8 to 10 hours per week. If, for example, your basement is used only for storage, test on the main floor. If the results are 4 pCi/L (picoCuries per liter) or higher, take steps to lower radon levels.

### SHORT-TERM TESTS

(around \$20) are less accurate than longer tests and are used mostly for quick results before a home sale. Most consist of a charcoal canister that you expose for a few days then send to a lab.



### LONG-TERM TESTS

(around \$25) are conducted like short tests. But the longer time period (90 days or more) provides results that aren't skewed by daily weather fluctuations.



### CONTINUOUS-TEST MONITORS

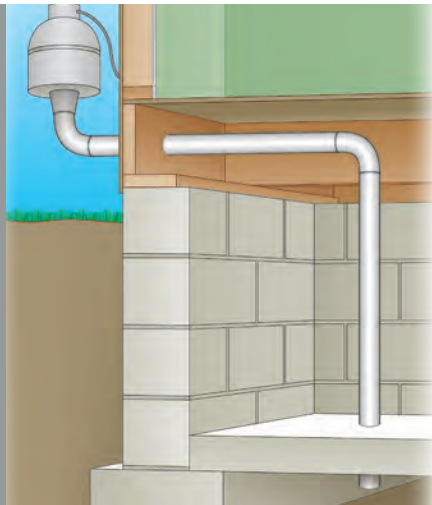
constantly measure radon levels and display a running average. Monitors cost around \$130 online.



## The ultimate solution

A radon mitigation system consists of a special fan and plastic pipes. The fan draws radon and other gases from under concrete floors and exhausts them outside. The pipes and fan can be mounted inside your home or out.

These systems typically cost \$1,000 to \$2,000, depending on the difficulty of installation. Your state radon office can provide a list of qualified contractors.



## 8. REPLACE SMOKE ALARMS

### Basic know-how saves lives

If you knew you could drastically reduce your risk of death and destruction just by installing and maintaining a few cheap gadgets, you would do it—right? Well, lots of people don't. About 60 percent of house-fire fatalities occur in homes with missing or neglected smoke alarms. To avoid becoming a statistic, you just need to know—and do—a few simple things.

#### Where to put them

Install at least one alarm on each level of a home, including one in each bedroom and one in each hallway leading to bedrooms. That's not just good practice; it's required by most building codes.

Smoke rises, so alarms must be close to the ceiling, but not too close. Place wall-mounted alarms 4 to 12 in. from the ceiling. Keep ceiling-mounted alarms at least 4 in. from walls.

#### There are two types

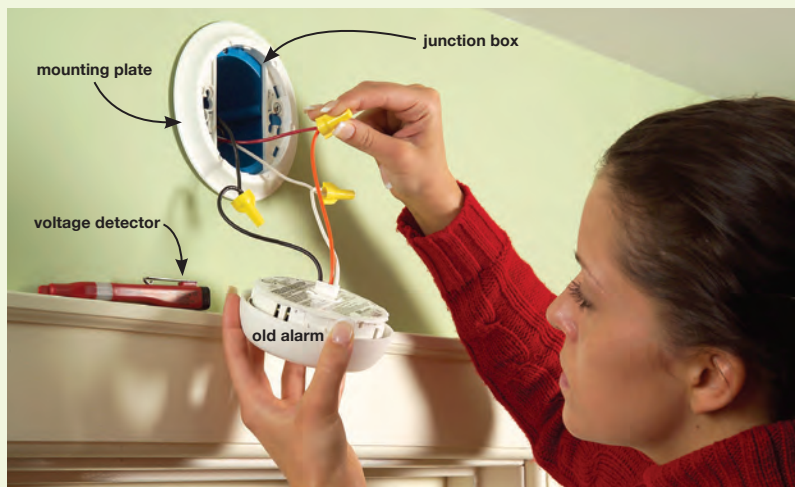
Before you replace an alarm, you have to know how it's powered. Some alarms are powered by batteries only. Others are "hard-wired" to your home's power supply and have batteries for backup power. Hard-wired alarms are usually interconnected; if one detects smoke, they all scream.

To tell what kind you have, remove it from the mounting plate. If it's connected to wires, it's hard-wired. If it's connected to three wires, it's an interconnected model. In that case, you should replace it and all of its neighbors with identical alarms.



## Replace a hard-wired alarm

Even if you're a wiring rookie, consider doing this job yourself. It is one of the easiest electrical projects there is, and you'll save the cost of hiring an electrician. The key to doing it safely is to first turn off the power at the main panel and then make sure it's off by touching wires in the junction box with a voltage detector (about \$5)—it will beep or light up if power is present.



### 1 Remove the old alarm

Rotate the alarm to remove it from the mounting plate. Disconnect the wires by unscrewing the connectors. Then unscrew the old mounting plate from the junction box.

### 2 Install the new alarm

Screw on the new mounting plate, connect the new wiring harness to wires coming out of the wall and plug the harness into the alarm. Mount the alarm on its plate and you're done.



## They don't last forever

After 10 years or so, alarms become unreliable and should be replaced. To check an alarm's age, just remove it from its mounting plate (usually by turning it counterclockwise).



## 9. KEEP CROOKS OUT

### Don't overlook your garage... burglar-proof it!

When it comes to security, too many homeowners overlook their garages. But crooks don't. To them, it's often an easy score—or worse, the perfect path into your home, where they can work on your entry door, unseen by neighbors. In about 20 percent of house burglaries, crooks enter through the garage. That's a shame, because boosting garage security is pretty simple.

### Don't leave your remote in the car

A thief who breaks into your car can grab the remote for easy access to your garage. This isn't just a problem when your car is parked in the driveway; the registration card in your glove box gives a crook your address.

So get rid of the remote on your visor and buy a keychain model. You can easily take it with you every time you leave the car. Home centers stock only a small selection of remotes, but you'll find many more online.



### Cover windows to hide the loot

Don't let crooks window shop for the valuable tools or toys in your garage.

Install curtains or blinds. Or, if you don't want to block light, apply translucent window film; it's quick, easy and inexpensive.





## Don't forget to close the door

Lots of garages get looted simply because someone forgot to close the door. A garage door monitor is a good reminder. Just stick the sensor to the door and set the monitor in a conspicuous spot like your nightstand.

The brand of your door or opener doesn't matter; any monitor will work. An automatic door closer provides even more security, since it closes the door whether you're home or not. Installation requires some simple low-voltage wiring and takes less than an hour. To find a monitor or an automatic garage door closer, search online.



## Garage door monitor

The sensor sends a signal to the monitor, telling you whether the door is open or closed. Both units are 100% battery-operated—no wiring is required.

## Automatic door closer

This device allows the door to stay open for a set amount of time, then closes it. You can override it on those summer days when you're working in the garage.



## Lock the overhead door

Some people "lock" the door when they go on vacation by unplugging the opener. That's a good idea, but physically locking the door is even better. An unplugged opener won't stop a burglar who has entered through the house from opening the garage door from inside, backing in a van and using the garage as a loading dock for his plunder.

Make a burglar's job more difficult and time-consuming by locking the door itself. If your door doesn't have a lockable latch, drill a hole in the track just above one of the rollers and slip in a padlock.

# 10. PREVENT BURST PIPES

## A frozen water line can wreck your home

A little ice can tear open a water supply line. That's bad enough, but the real disaster often occurs as the ice thaws and water flows freely into your home. In just a few minutes, that flow can do thousands of dollars in damage.



### Let the water run

A tiny trickle from faucets protects pipes in two ways. First, it prevents pressure from building up inside pipes.

Second, it creates a constant flow of water through pipes and that makes freezing much less likely.



### Why pipes burst

When water freezes, it expands in volume by about 9 percent. And it expands with tremendous force:

The pressure inside pipes may go from 40 pounds per square inch to 40,000 psi! No pipe can hold that much pressure, so it breaks open.

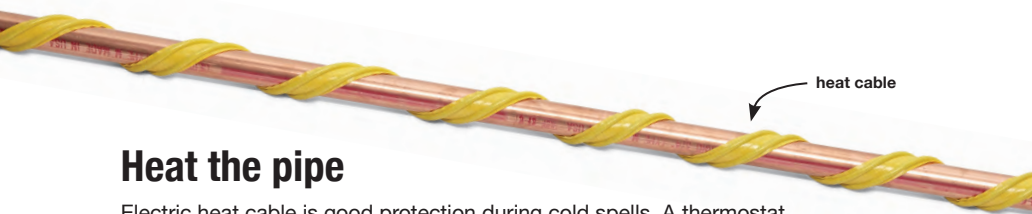
The break may occur where the ice forms, but more often, it occurs where water pressure finds a weak spot in the pipe. That may be inches or even feet from the frozen area.

## Temporary steps

The first sign of ice forming in pipes is reduced flow at faucets. So if the flow slows to trickle during a cold snap, or if you suspect your pipes are vulnerable, take action.

Here are a few things you can do:

- Turn up the heat.
- Set up fans to blow heat into cold rooms.
- Open vanity or cabinet doors so warm air can reach the pipes under sinks.
- If you have exposed pipes inside closets or pantries, leave doors open.
- Disconnect garden hoses from outdoor faucets. Even “frost-proof” faucets can burst if a hose is connected.
- Keep the garage door closed.
- If you have reduced water flow, heat the most vulnerable pipes (usually in basements and crawl spaces or near exterior walls) with a hair dryer. Leave the faucet on while you apply heat. As you melt ice, the flow will increase.



## Heat the pipe

Electric heat cable is good protection during cold spells. A thermostat switches on the heat only when the temperature drops, so heat cable won't waste electricity when it isn't needed. But if you need to protect lots of pipes for long periods, heat cable is an expensive solution.



## Permanent protection

Long-term freeze prevention is usually a major project, like insulating a crawl space, replacing standard outdoor faucets with frost-proof models or even rerouting pipes away from cold spots inside the home. Start by calling in a professional plumber to assess your situation and make recommendations.

# 11. FIND YOUR SHUTOFF VALVES

## They're the difference between a tiny puddle and a huge flood

Your home's water supply system is dangerous. In just minutes, a cracked pipe, burst hose or leaking icemaker line can do thousands of dollars in damage. But if you know the basics about shutoff valves, you can stop the flow instantly and limit the harm.

### Solution for stubborn valves

When a valve won't budge, sometimes it helps to loosen the packing nut just a little. Turn it counterclockwise while holding the handle steady with your hand or pliers. If you ever notice a leak around a valve stem, tighten the packing nut



### The smartest move you can make before a vacation

Every insurance adjuster has a hundred stories like this one: The homeowners left town Friday and returned Sunday evening to find thousands of dollars in water damage. The moral of these stories is simple: Before going on vacation, turn off the main valve. In less than a minute, you can eliminate the most common cause of home damage.

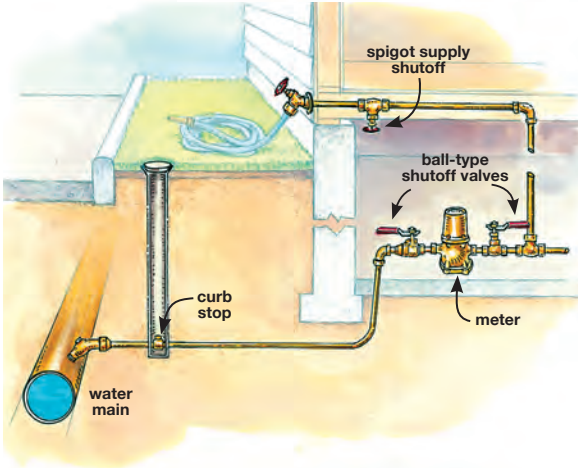
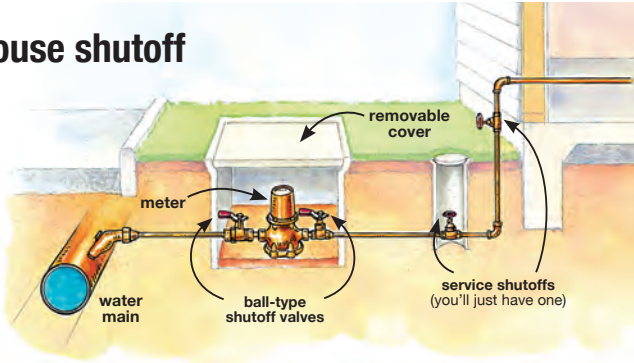
### Icemaker shutoffs can be anywhere

Valves for icemakers may be under the kitchen sink, in a utility closet or in a basement or crawl space.

## The main house shutoff

### In warm climates...

The main shutoff is typically outside, attached to a wall or underground.

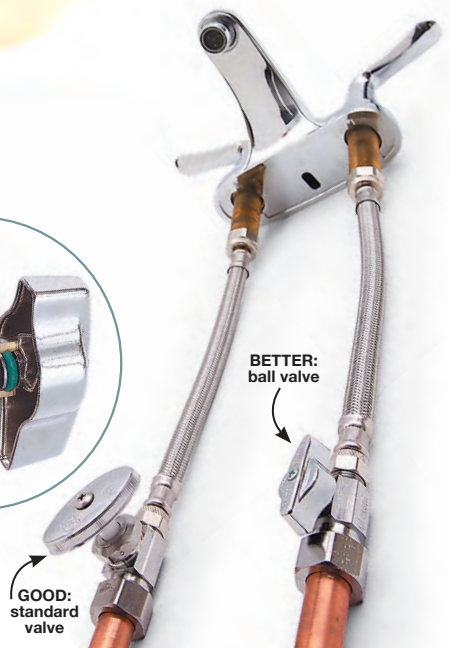
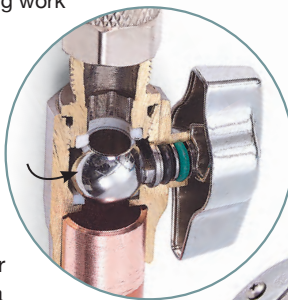


### In colder climates...

The main shutoff is typically in the basement. There is also a "curb stop" shutoff that requires a special tool to operate.

## Insist on ball valves

If you have any plumbing work done that requires replacing valves, ask for ball valves. That may add ten bucks to the cost of the project, but it's a bargain. Unlike other valves, which rely on screw mechanisms and rubber seals, ball valves have a simple ball inside, which rotates to open or close. That simplicity means reliability; ball valves almost always work when you need them.





## 12. REMODEL WITHOUT REGRETS

### When planning, don't rely on your imagination alone

When planning a remodel, most homeowners rely on their own imagination, aided by sketches, blueprints or computer modeling. Those are all good, but nothing can preview a remodeled space like life-size, real-world models. Mock-ups aren't always possible, of course. But when they are, they pay off big in long-term satisfaction.

#### Build a scale model

A quick, crude model of a kitchen island, cabinetry or even furniture is the best way to determine if it's too big or small. Leave it in place and live with it for a few days before you decide whether it's a convenience or a curse.



#### Voice of experience

*Cardboard and plywood are fine, but I always use 1-in. thick foam insulation. The 4 x 8-ft. sheets are light enough to carry with one hand, easy to cut with a utility knife and you can strap parts together with masking tape. I've even used it to mock up walls and doorways.*

Gary Wentz,  
The Family Handyman Field Editor





## Design on the wall

Some projects are just too big for full-scale models. But with some tape, chalk and paper, you can create a full-scale layout on walls and floors.

## Preview a fence

Will a privacy fence really deliver privacy—or hide your neighbor's junk collection? Finding out is easy with a big sheet of cardboard. Along with a helper, you can determine the best location and height.



## Landscaping layout

Planning a pond or patio? A retaining wall or planting bed? Lay down a rope or garden hose to map the footprint. When you're happy with the shape, mark it with spray paint.

## 13. PICK THE BEST PAINT

### Get better-looking, longer-lasting results

On painting projects, there are two keys to success: careful preparation of the surface and using the right products. Prep work is usually tedious, but simple. Choosing paints and primers, on the other hand, is confusing. Even small stores carry dozens of types, and the labels often add to the confusion.

So here's a guide:



#### Acrylic latex: Usually the best choice

Most of the paint and primer cans on store shelves contain acrylic latex paint. And there's a good reason for that.

On most surfaces—wood, masonry, metal, drywall—it's a proven performer, indoors and out. It's also reasonably priced and water-based for easy cleanup.

#### Are expensive paints worth it?

Prices for paint and primer vary widely. One can of acrylic latex, for example, might cost four times as much as the acrylic latex on the next shelf. Some designer-brand paints give you medium quality at a high cost. But generally, higher cost means better coverage, a smoother finish and longer life.

#### Fight mildew

Got a mildew zone? Choose a paint that contains mildewcide or add mildewcide to the paint. Be sure to clean the area with 1:3 mix of bleach and water first.



## Smooth finishes on woodwork

For cabinets, doors or trim, you want a smooth finish. But some paints, even high-quality paints, just aren't formulated for that. Smooth paints are usually labeled "enamel" or "door and trim." Most are acrylic latex, but another category beats acrylic latex for smoothness: Water-based alkyds level out and dry smooth just like old-fashioned oil-based paints, but clean up with water. They're also among the most expensive paints on the market. But when you consider all the time you'll put into a first-class paint job, spending \$20 more doesn't seem so bad. Water-based alkyds are available at paint stores.

## Block stains

Some stains—from smoke, water, crayons or markers—bleed through standard paints and primers no matter how many coats you apply. Some woods, especially cedar and redwood, contain natural pigments that bleed through paint.

The solution is to start with a primer that's formulated to seal in stains. Some come in spray cans, convenient for quick spot priming. Most pro painters report best results with oil-based products, but water-based primers are also available. Most stain-blockers also seal in odors such as tobacco smoke.



## Primer tips

- Use primer and paint from the same manufacturer. Many primers are formulated to work best with certain paints.
- Paint within 48 hours of priming. Many primers bond physically and chemically with the topcoat. But that bonding power diminishes quickly.
- Tint it. For no extra charge, the paint store can add some pigment to primer. That will get you one step closer to the final color you want and possibly eliminate one coat of paint. Primers are often tinted gray rather than the color of the topcoat.

## 14. PATCH WALLS PERFECTLY

### With a little patience, you can get pro results

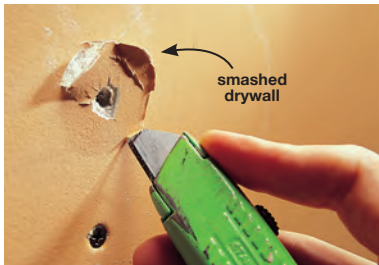


#### Fill small holes

For holes smaller than 1/8 in., use spackling compound. If you have a mix of hole sizes, some larger than 1/8 in., some smaller, you can use joint compound for all of them. Whatever you use, expect shrinkage as the compound dries (no matter what the label promises). Don't be surprised if you have to coat the hole two or even three times to compensate for shrinkage.

#### Fix nail pops— and keep them from coming back

Nail pops happen when drywall nails or screws break through the surface, usually due to shrinking and swelling of the wall studs. If you just pounded them in and patch them, they'll be back. Here's how to fix them permanently:



#### 1 Prepare for patching

Drive drywall screws into the stud above and below the pop. Don't use nails. If the drywall has puckered around the pop, slice it out. If the area is flat, leave it alone. Remove the popped nail or screw.



#### 2 Patch the holes

Fill the depressions with joint compound. Let the compound dry and coat it again (and probably again!) until the patch is flat. Smooth the patch with 100-grit sandpaper, then prime and paint.

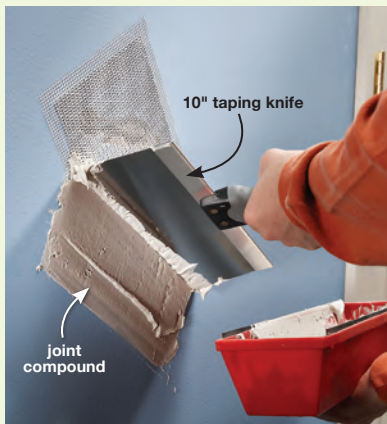
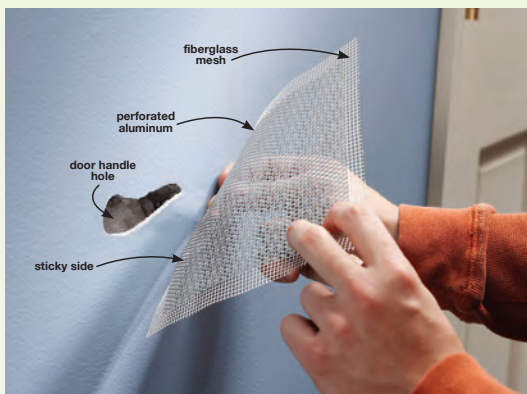


# Patch a big hole

The usual way to cover a large hole (such as a doorknob disaster) is to cut out the damage, insert new drywall and reinforcing tape, then smooth it over with joint compound. But here's a shortcut: Home centers carry adhesive-backed metal patches in various sizes. They're cheap and save a few steps. Here's how to use one:

## 1 Stick on the patch

Scrape off any protruding paint or drywall around the hole. Then apply the patch—just like a bandage.



## 2 Coat the patch

Drive drywall screws into the stud. Spread joint compound over the patch with a wide knife. Smooth out the compound, let it dry and add another coat. Keep the coats thin and smooth; it's better to apply three or four coats than to create a thick buildup. Extend each coat a few inches beyond the previous coat to form edges that gradually taper.

## 3 Sand the compound

Smooth the dried compound with a sanding sponge. If you did a good job of smoothing and tapering the compound, this will take just a few minutes and the slight hump on the wall will be invisible after priming and painting.



## 15. WORK SAFELY

### Routine chores can lead to ER visits

When it comes to homeowner hazards, it's the minor jobs that lead the list of major injuries. A homeowner cleaning gutters or even changing a ceiling lightbulb is more likely to get hurt than the electrician working with high-voltage cables. So here are some ways to stay safe while caring for your home.

#### Don't get zapped

House chores—especially outdoors—often bring water and electricity together. The best way to make those situations safer is to use a GFCI (ground-fault circuit interrupter). Newer homes have GFCI protection in bathroom, kitchen, garage and exterior outlets, but those GFCIs may no longer offer protection after 10 years or so. To be safe, plug your leaf blower into a GFCI extension cord before you venture into the wet grass.



#### Don't fall off the roof

If you get on your roof every fall to clean the gutters, consider buying a personal fall arrest system (aka "roof harness"). For around \$100, you can buy a kit, install permanent or temporary anchors in key spots and tether your harness to them for the ultimate in roof safety.

#### Don't blow up the house

The flammable fumes that evaporate from some adhesives, solvents or paints will ignite if they reach a flame. Check the label. If you see warnings about flammable vapors, don't use the product near gas water heaters or other appliances with pilot lights. Candles, small engines—anything that might flame or spark—can also trigger an explosion.





## Protect your eyes

Of all homeowner hazards, eye injuries are the easiest to prevent. Just wear safety glasses. They're so cheap that you can keep pairs handy anywhere you might need them: the garage, basement and shed. And don't just wear them when using power tools. Eyes get injured in surprising circumstances—while trimming bushes, spray painting, blowing leaves....

## Protect your lungs

Dust isn't just a sneeze-inducing nuisance—heavy repeated doses can lead to severe allergic reactions and even harm your lungs. You can buy a dust mask for as little as 50 cents, but don't. Instead, spend a few bucks on one with an “N95” certification. You'll get a mask that's more comfortable and truly effective at keeping dust out of your lungs.



## Protect your brain

Fumes from solvents, adhesives and paints can make you nauseated or dizzy. But it gets worse: Those fumes can also damage your brain or lungs. Occasionally, they even kill users. Good ventilation—open doors and windows—is your first defense. Also wear a respirator with replaceable carbon filters.



## Protect your ears

Sure, the risk of hearing damage is highest for those who use loud equipment every day. But if you use a shop vacuum, leaf blower or circular saw without hearing protection, you're doing permanent damage every time. And that's just dumb because protecting your ears is so easy. The goal is to reduce noise levels to 90dB. All forms of hearing protection—earmuffs, disposable foam earplugs, reusable plugs—are adequate for most noise. With super-loud equipment like chain saws, it's smart to use both plugs and earmuffs.



# Safe ladder setup

Ladder safety starts with careful setup. Sloppy setup leads to falls, even if you climb cautiously.

## Set the angle

Setting a ladder at the correct angle is the key to stability. Too steep and it can slide sideways or tip backward. If not steep enough, the feet may slip.

To get it right, put your toes against the ladder's feet. Stand straight up and extend your arms. Your palms should just reach the ladder's rung.

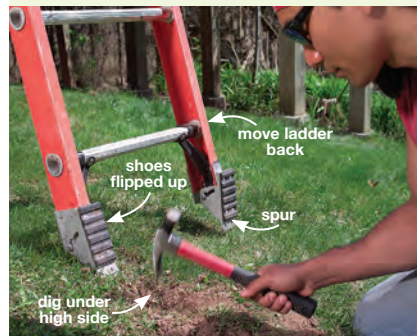


## Anchor the feet

Make sure the ladder can't slip out from under you. Sweep off hard surfaces and make sure the ladder's shoe pads are clean. On a deck, screw down a cleat to lock the ladder in place. On concrete, you can often secure the ladder against something heavy like a lawn tractor. On soft ground, flip up the shoes so the spurs can bite into the soil.

## Stand it straight up

A ladder that's leaning left or right on uneven ground can slip sideways and take you for a life-threatening ride. Don't straighten a leaning ladder by setting one foot on bricks or blocks. Instead, dig a shallow hole to level the feet. Then, before you climb, jump hard on the lowest rung a couple times to make sure the ladder doesn't tilt.





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**the family**  
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# 15

**THINGS  
EVERY  
HOMEOWNER  
MUST KNOW**

**the family  
handyman**