

EIGHT

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# Plumbing



## Drains

All the water you use leaves the home through a drain. Maintaining drains prevents clogging, overflows, water damage, and other problems.

### Care and Maintenance

Follow these care and maintenance suggestions for your home's drains.

### Drain Traps

Most plumbing fixtures (e.g., sink, shower, bathtub, toilet) have a drain trap. A drain trap is a J-shaped piece of pipe beneath the fixture. It holds water that forms a barrier to keep sewer gases in the drainpipe system from entering the home.

### To Maintain Drain Traps

If you use a particular plumbing fixture infrequently, turn it on at regular intervals to replace evaporating water in the drain trap and keep the water barrier intact.



*Traps, because of their shapes, are the point where drains are most likely to become clogged.*

### To Check Appliances for Leaks

If an appliance that uses water, such as a dishwasher, appears to be leaking, check the drain before calling for repair. A partially blocked drain can cause overflowing.



*Caustic soda is sold commercially as a drain cleaner, but you should never use it to open a drain. It will combine with the grease from soap or food wastes to form an insoluble compound.*

### To Keep Drains Clear

To keep a drain clear of grease from soap and cooking utensils, add ordinary washing soda, but not baking soda, to the drain. Follow this preventative procedure regularly to keep the drain clear.

1. Run hot water through the drain, and then turn the water off.
2. Add 3 tablespoons of washing soda.
3. Follow the washing soda with just enough hot water to wash it down the drain opening.
4. Let the washing soda set for 15 minutes, and then run more hot water.



*Never pour grease into a drain or toilet.*

CAUTION

### If You Have a Septic System

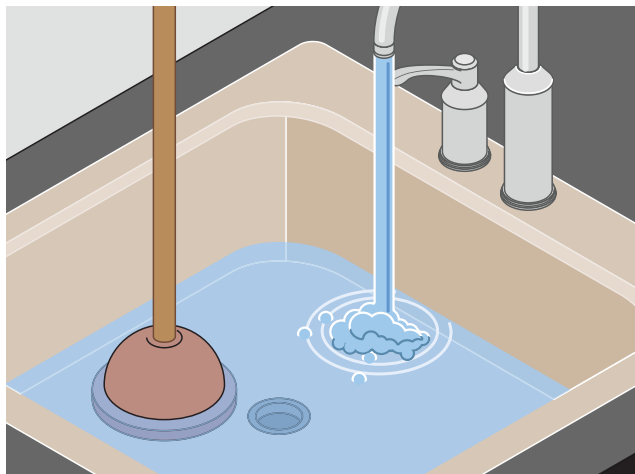
Septic systems are individual wastewater treatment systems that use the soil to treat wastewater. The septic tank should be pumped every three to five years to prolong the life of your system.

### To Clear a Drain

To clear a clogged drain, plug any overflow outlet with a piece of cloth so the plunger can develop the necessary suction and pressure. For example, if you're clearing a drain for a double sink, plug the other drain. Then, try the following procedures to clear the drain.

### Use a plunger

1. Make sure the water comes up well over the edge of the plunger cup.

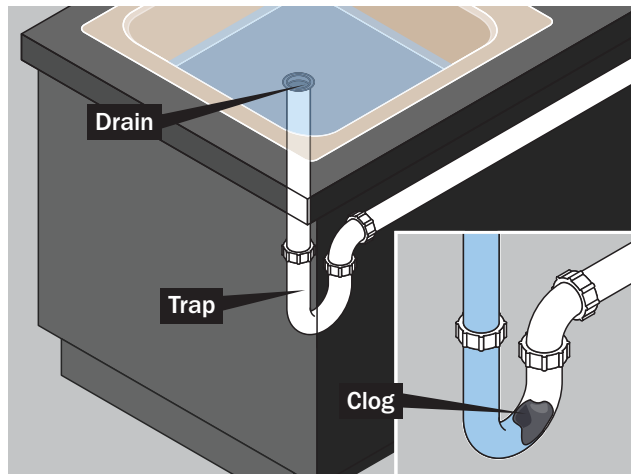


2. Make sure the rubber plunger cup completely covers the drain opening. Work the plunger up and down rhythmically 10 to 20 times in succession to build up pressure in the pipe. This method is more effective than sporadic, separated plunges.

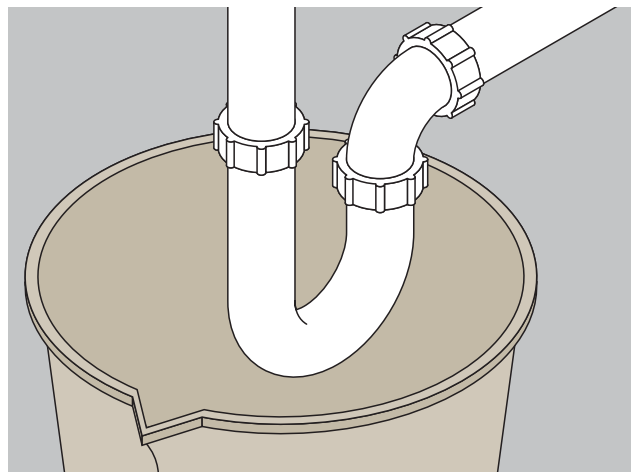


### Open the trap

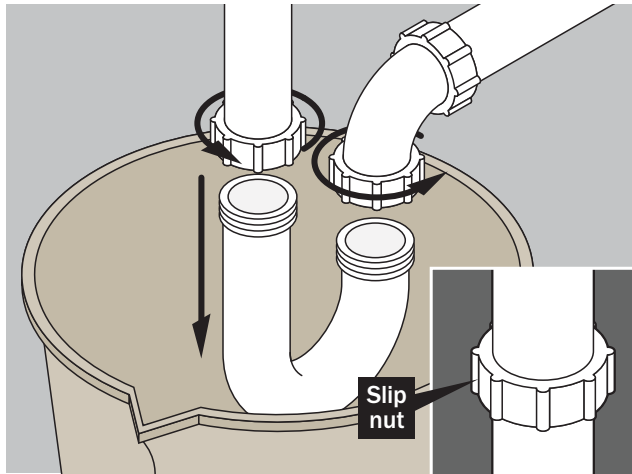
Opening the trap is a messy last resort for a quick fix, but it will usually solve the problem.



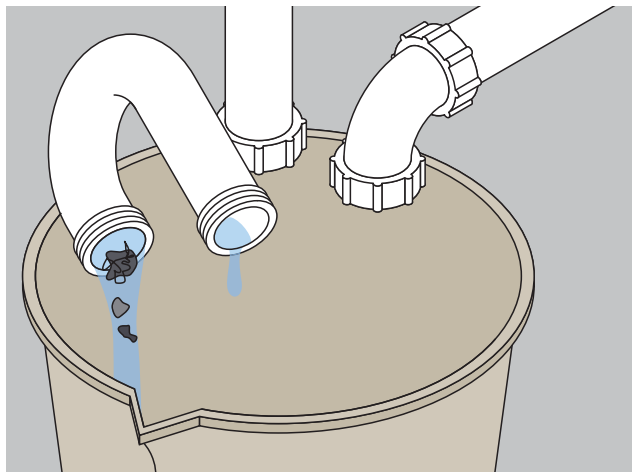
1. Put a bucket or pan under the drain to catch water.



2. Unscrew the two slip nuts holding the trap in place.



3. Remove the trap, and use either a piece of wire or a plumber's snake to dislodge the blockage.



**H**  
HOME TIP  
If you feel comfortable using a plumber's snake to unclog a drain, you can rent or purchase a snake at a hardware or plumbing store. Turn the handle of a snake in the same direction when inserting and removing it to keep any matter attached to the snake from coming loose before it can be removed.

**S**  
SERVICE TIP  
If you need assistance to unclog a drain, call an approved professional plumber.

## Faucets

Your faucets are designed to look great and perform well for many years.

### Faucets

Faucets, like all plumbing fixtures with moving parts, are apt to require more repair than nonmoving fixtures. The less strain you put on your faucets, the less frequently they need repair.

### Faucet Aerators

Cleaning the aerators will be the most frequent task in maintaining your faucets. A lack of water pressure is usually caused by a buildup of sediment on the aerator screens inside the faucet. Faucet aerators add air to the water as it leaves the faucet, reducing splashing and providing some water conservation.

### Care and Maintenance

Follow these care and maintenance suggestions for your home's faucets.

### Faucet General Maintenance

The various types of finishes require different cleaning and maintenance methods. Use the manufacturer's recommended cleaning products, and follow the cleaning instructions.

Don't use industrial, abrasive, or tile cleaners to clean faucets.

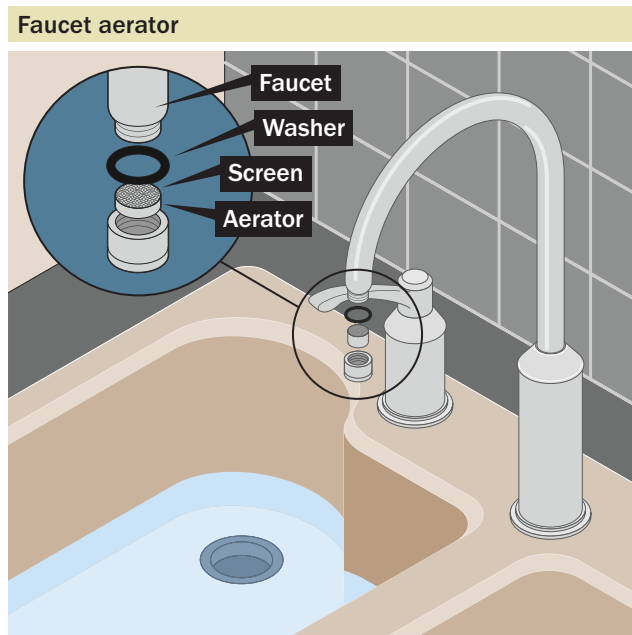
Don't use any pads or sponges that are unsafe for polished metallic surfaces. Most pads or sponges contain microscopic mineral particles that can scratch a faucet's finish.

Prevent water spotting and mineral buildup by wiping faucets dry after each use.

## To Clean Faucet Aerators

Clean the faucet aerators every three or four months or more frequently in areas with high levels of hard water. Follow these guidelines to clean them:

1. Unscrew the aerator from the mouth of the faucet.
2. Remove any debris.
3. Remove and rinse the washer and screen.
4. Replace the parts in their original order.
5. Replace the unit on the faucet mouth.



*Some faucets require a special tool to access the aerator.*

## To Repair a Leaking Faucet

Repair a leaking faucet by replacing the washer or cartridge. Use the following guidelines to help.

1. Consult the faucet manufacturer's instructions to purchase a replacement washer or cartridge.
2. Turn the water off at the shutoff valve.
3. Open the faucet handle to relieve the water pressure.
4. Replace the washer or cartridge by following the manufacturer's instructions.

See also *Shutoff Valves* (p. 95).

For more information about faucets, visit the manufacturer's website.

## Pipes

The plumbing pipes in your home are designed to function without any maintenance, but if maintenance is needed, it should be performed by a professional plumber.

### Care and Maintenance

Follow these care and maintenance suggestions for your home's pipes.

### General Maintenance

Check under your sinks, with the water running, to ensure all connections are tight.

### If You Discover a Leaking or Broken Pipe

Turn off the main shutoff valve to help prevent water damage, and call for service.

### If You're Disturbed by Noisy Pipes

Plumbing pipes will make noise at times. It isn't unusual to hear water running through the drainpipes between your walls. Water supply lines sometimes produce a clicking noise as they expand when hot water runs through the pipe, and then contract when the water cools down.

**S** *Call for professional service if you hear a loud banging noise when using the water pipes.*

SERVICE TIP

### If a Plumbing Joint Loosens

Plumbing joints are intended to last the life of the home. If a connection loosens, call for service.

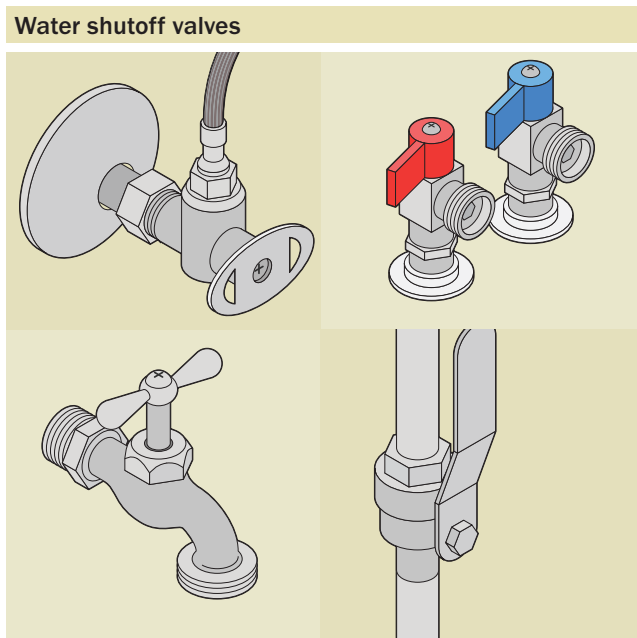
See also *Shutoff Valves* (p. 95) and *Main Shutoffs* (p. 33).

## Shutoff Valves

Shutoff valves prevent flooding and water damage when water-using fixtures and appliances overflow or leak.

Water shutoff valves work just like their name implies – they allow you to shut off water to particular areas of your home to prevent flooding if a fixture or appliance fails.

The main shutoff valve that cuts off the water supply to the entire home is typically located near the water meter. Most of the water-using fixtures and appliances in your home have their own shutoff valves. The shutoff valves for some fixtures, such as bathtubs and showers, might be difficult to access. It might be easier to cut off the main water supply instead of the individual shutoff for one of these fixtures if needed.



## Care and Maintenance

Become familiar with the various water supply shutoff valves in your home. A good practice is to label each valve with a tag for easy reference. Know the locations of the water shutoff valves for the following fixtures and appliances:

*Sinks*

*Dishwashers*

*Bathtubs*

*Water heaters*

*Toilets*

*Showers*

*Laundry areas*

*Sprinklers, fire sprinklers, and lawn irrigation systems*

*Refrigerators and ice makers*



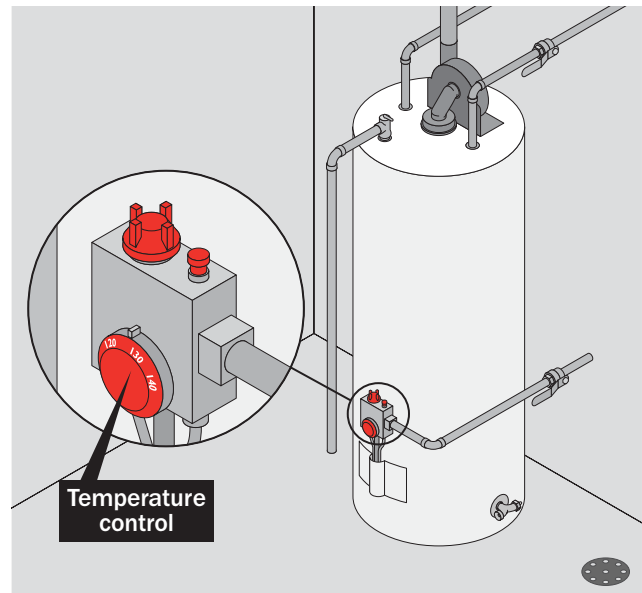
*Shut off the water supply if you're leaving home for an extended period of time.*

## Water Heater

You have an energy-efficient water heater that, with some maintenance, will provide hot water for many years.

The water heater provides the amount of heated water you'll need during peak usage times. A plastic tube carries incoming cold water into the bottom of the tank, where the water is heated. Hot water rises to the top of the tank. All gas and electric water heaters have a control mechanism to govern water temperature. If your water heater has the capability to set the temperature, set it between 120°F and 130°F.

### Water temperature control



## Care and Maintenance

Follow these care and maintenance suggestions for your home's water heater.

### General Maintenance

The water heater is easy to take for granted until it suddenly stops working. Maintenance is easy to overlook because the water heater looks fine from the outside. But inside, two things are constantly attacking your water heater: rust and limestone sediment.

Most steel water heater tanks are lined with glass to prevent rust, but the glass lining isn't perfect, and the constant temperature fluctuations cause it to expand and contract, making small openings. When water eventually penetrates the lining, the tank begins to rust.

At the same time, the heated water causes limestone to form in the tank. As it forms, it settles to the bottom of the tank. In gas water heaters, limestone sediment eventually becomes thick enough at the bottom to reduce heating efficiency. In electric tanks, sediment collects on the heating element, forming a hard crust that eventually makes the heating element stop working.

To keep your water heater operating correctly and minimize rust and limestone buildup, you need to perform regular maintenance.

**H**

HOME  
TIP

*If you leave home for an extended period, turn off your water heater at the electrical breaker panel; this will protect the heating element and reduce your use of electricity while you are away.*

## To Test the Pressure Relief Valve

Test the relief valve annually to make sure it hasn't become clogged with limestone buildup. You can test the valve while the water tank is full.

1. Make sure the valve is connected to a pipe that directs the water down and away from the tank so that scalding water doesn't spray someone if the valve releases hot water due to excessive pressure.
2. Put a bucket under the drainpipe to catch the water.
3. Open the valve by lifting the handle slightly. Use caution because it will release hot water.

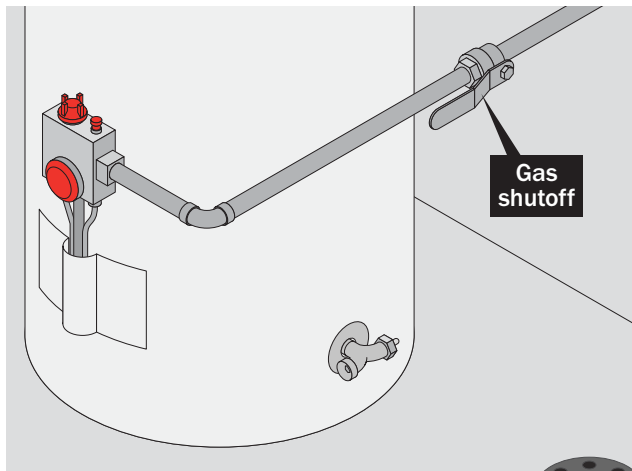
See also *Electrical Troubleshooting* (p. 14).



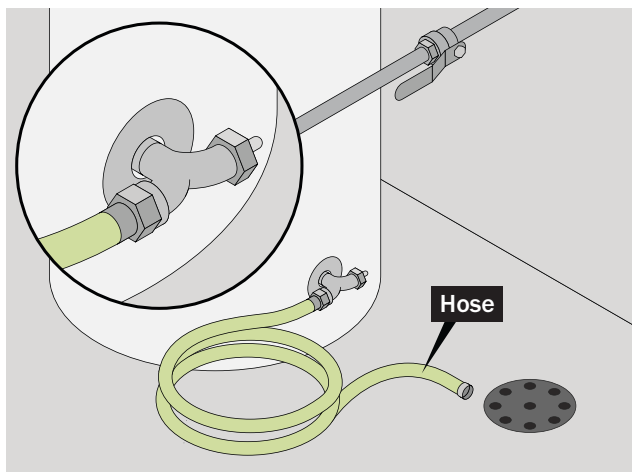
## To Drain the Water Heater

To remove sediment, drain the water heater at least once each year. If you haven't drained the sediment on a regular basis, you may need to repeat the process a few times. Make sure you let the water heater fill back up each time before draining it again.

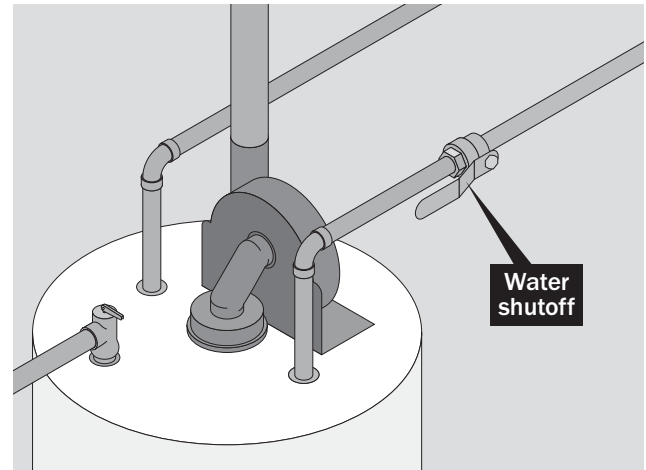
1. Shut off the gas or electricity to the water heater.



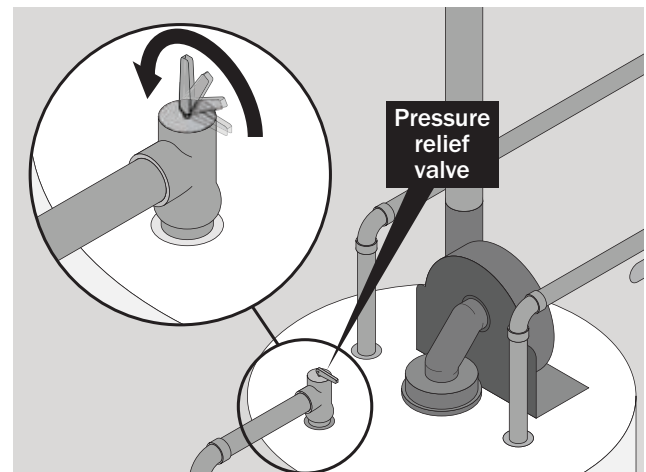
2. Attach a garden hose to the drain valve at the bottom of the tank.



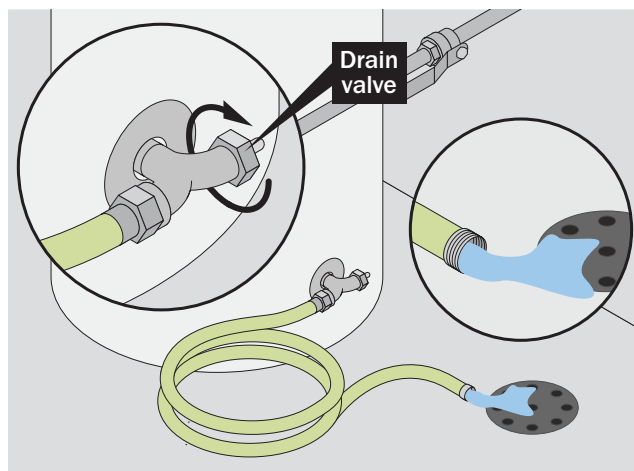
3. Locate the shutoff valve for the water heater, and shut off the water supply for the tank.



4. Open the pressure relief valve on the tank to break the vacuum.



5. Open the drain valve on the tank, and drain up to 4 gallons of water or until the water becomes clear.



After draining the water heater, disconnect the hose, close the fitting, and turn the water back on. Don't turn the gas or electricity back on until the tank has refilled.



*A water softener will help to keep the tank clean.*