



Welcome!

Minor Home Repairs

November 4, 2017



County of Henrico
Department of Community Revitalization



Objective

- Educate homeowners on basic technical skills that will help the homeowner understand daily operations of different functionalities around the home.
- Basic technical skills include:
 - Minor Plumbing
 - Minor Electrical



Basic Plumbing

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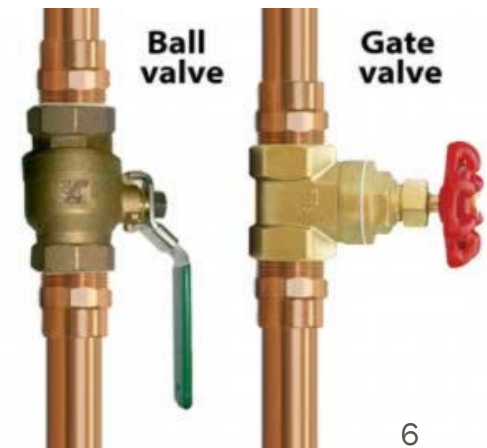
Plumbing

- The objective is to help homeowners understand how plumbing equipment functions in addition to learning how to install, repair, and maintain plumbing.
- Identify tools needed for minor repairs.



Water shutoff valve

- Before taking on any plumbing repair, or in the event of an emergency, **turn off the water to your house.**
- Shutoff valves are typically located:
 - in crawl spaces or basements - on an interior wall near the front of the house where the water comes in from the meter
 - utility rooms - near the hot water heater
 - outside near the water meter.
- Only use your hand to turn water valves on or off. Using a tool might result in breaking the valve. Call a plumber if you cannot turn your valves off by hand.



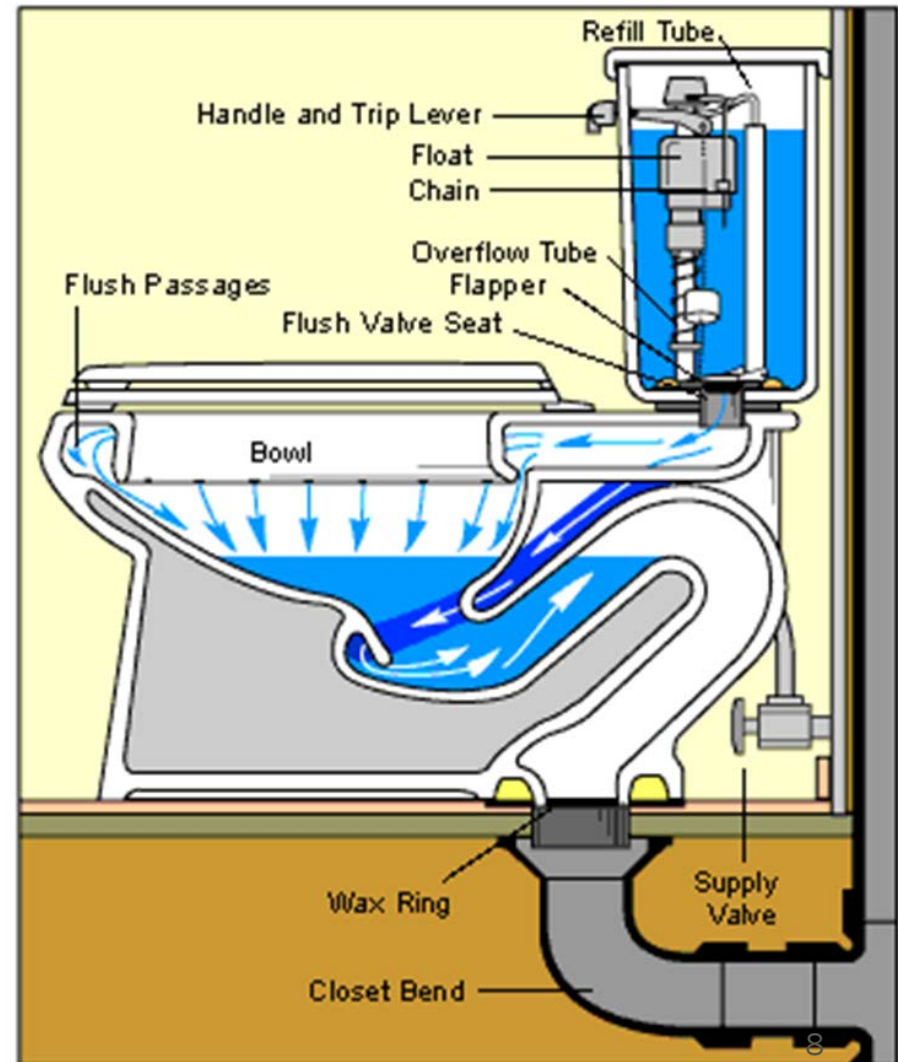
Tools and Supplies

- Pipe wrench
- Adjustable wrench
- Flat and Phillips head screwdrivers
- Plumber's grease
- Needle Nose plier
- Teflon tape



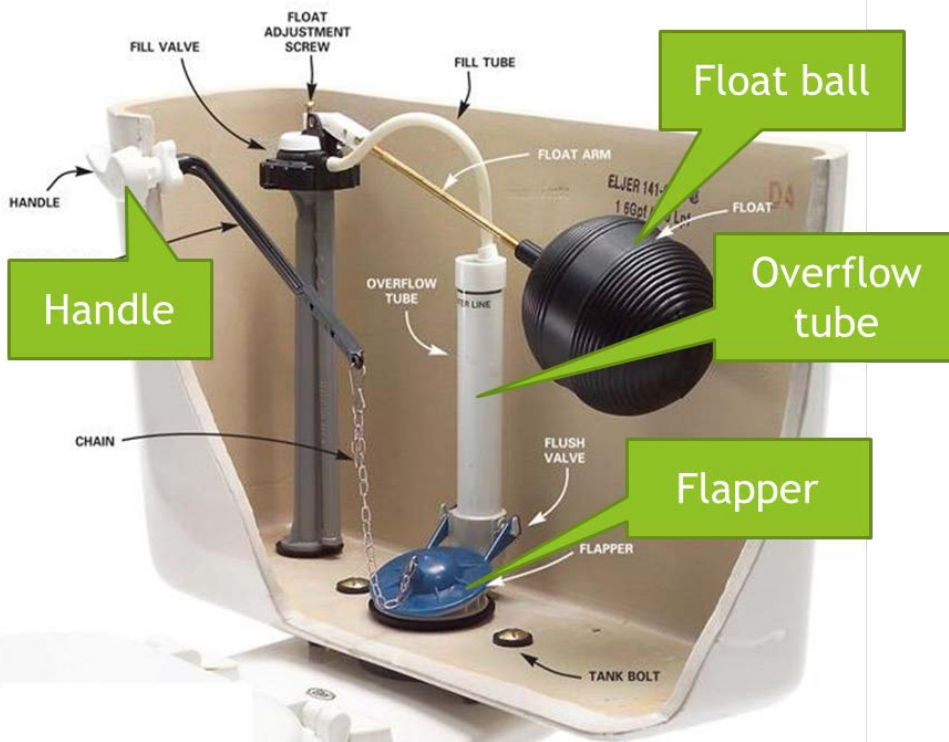
How A Toilet Works:

1. Push the handle to release the flush valve. This opens the connection between the tank and the bowl.
2. Water is “poured” quickly from the tank into the bowl.
3. Allowing the water in creates a siphon effect.
4. The siphon effect empties the bowl from the suction created.
5. Fresh water begins to fill the tank because the level indicator (or float) turns the supply valve on
6. When float reaches the predetermined level, it triggers the supply valve to shut off.

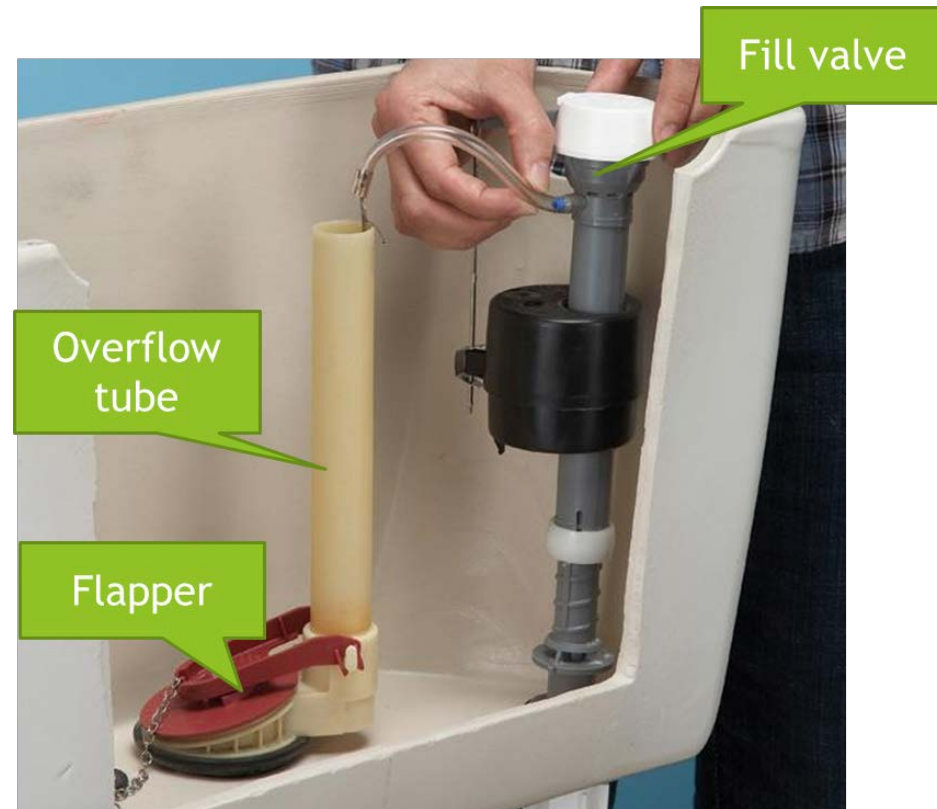


Old vs. New Tank Parts

(Older Style) Float ball



(Newer Style) Fill Valve



Common Toilet Problems

- Water spills into overflow tube
- Toilet does not flush completely
- Tank is leaking
- Water runs after flushing or continuously
- Base of toilet is leaking
- Toilet clogged



Water Spills Into the Overflow Tube

Solutions:

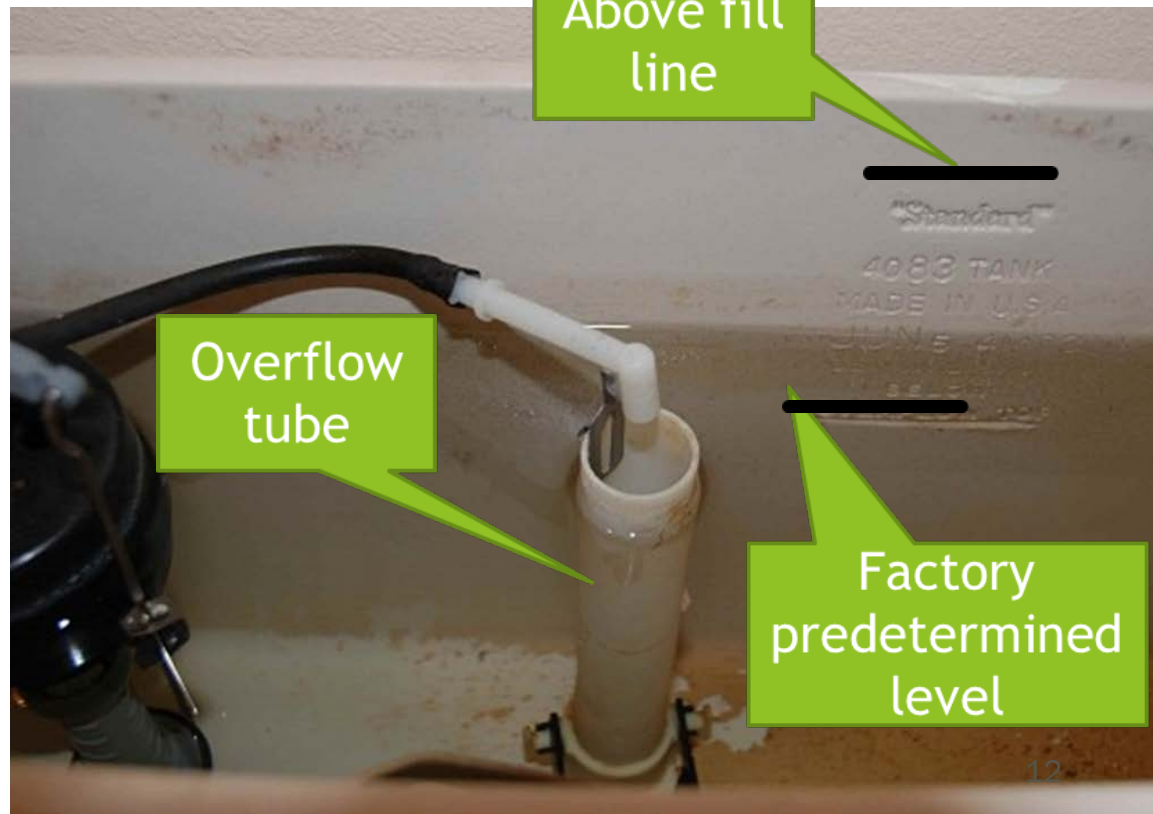
1. Check fill valve or float ball; if bad replace it
2. Check the lift chain to see if the handle is properly connected
3. Adjust the water level in the tank if water is running into the overflow pipe
4. If the tank ball or flapper ball is worn replace it



Note: Before you start tank repairs, turn the shut off valve off and flush the toilet. This will drain the water from the tank.

Water Spills Into the Overflow Tube

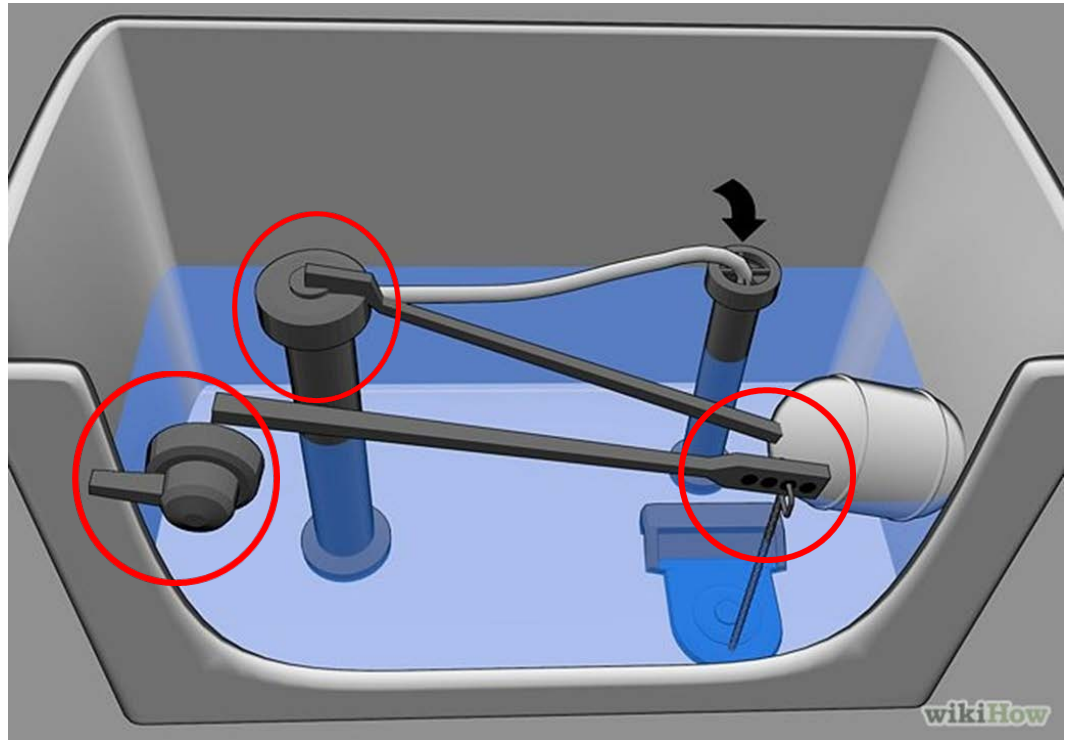
1. Adjust the float arm clamp (by bending downward or upward) so that the water level is about $\frac{1}{2}$ " to 1" below the top of the overflow tube.
2. Replace the float ball or fill valve if it has filled with water



Toilet Does Not Flush Completely

Solutions:

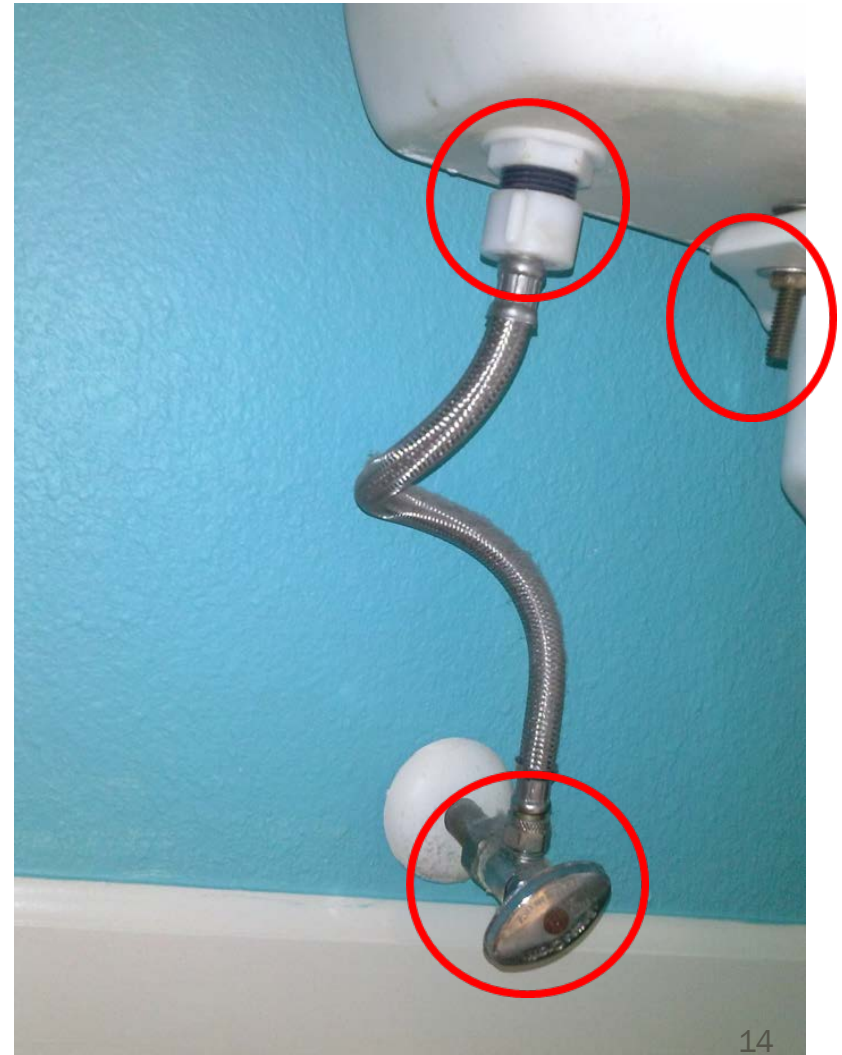
1. Adjust the lift chain to make sure there is not too much slack.
2. Raise the level $\frac{1}{2}$ " to 1" below the top of the overflow tube by bending the float arm upward.
3. Check flush handle to see if handle nut is tight



Tank Leaking

Solutions:

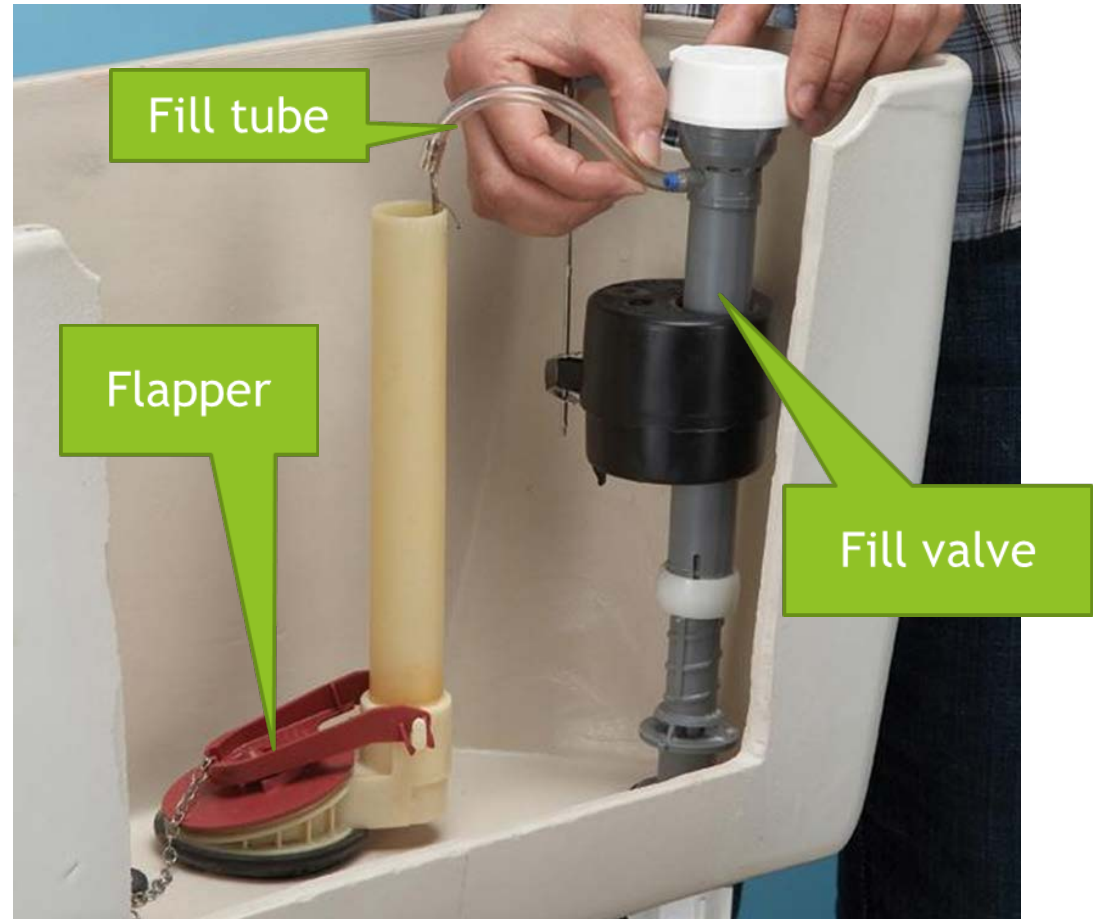
1. Make sure the connections to the water supply line are tight.
2. Make sure shut-off valve is open.
3. Check for leaks around shut-off valve. (Washer could be bad or water outlet line damaged).
4. Check tank bolts to ensure proper seating of rubber washer and bolts where they attach to the bowl.



Water Runs After Flushing or Continuously

Solutions:

1. Check tank flapper to make sure that it is properly seated on flush valve. If flapper is worn replace it.
2. Adjust fill valve or float ball.
3. Check the tank water level.



Base of Bowl Leaking

Solutions:

1. Tighten the bolts at the base of the bowl.
2. Replace wax ring gasket under the bowl.
3. Toilet bowl needs to be realigned.(If you notice the bathroom floor is not level spacers will be required for proper alignment.)



Note: Always replace the wax ring when reinstalling a toilet.

Unclogging Toilets

Solutions:

Only use a flange plunger.

A flange plunger is designed to seal the opening of a toilet bowl and maintain the required vacuum and pressure as you plunge.



Quiz: Types of Plungers

Sink Plungers

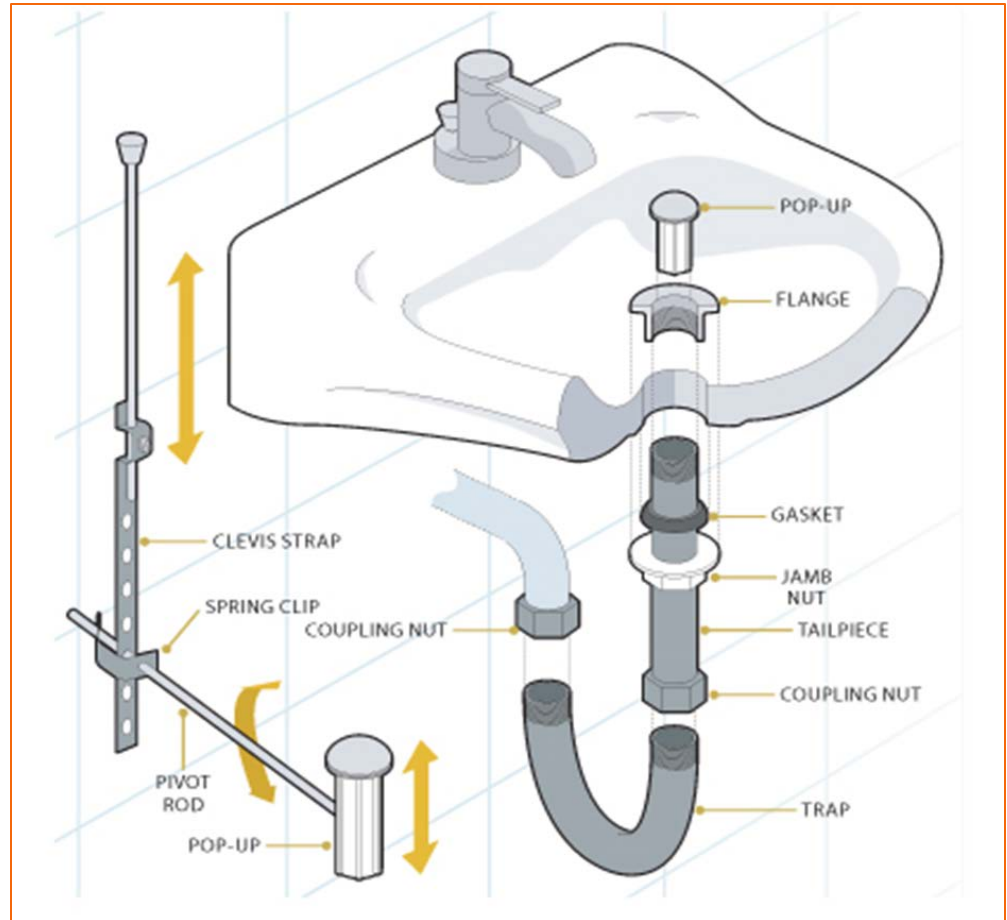


Toilet Plunger



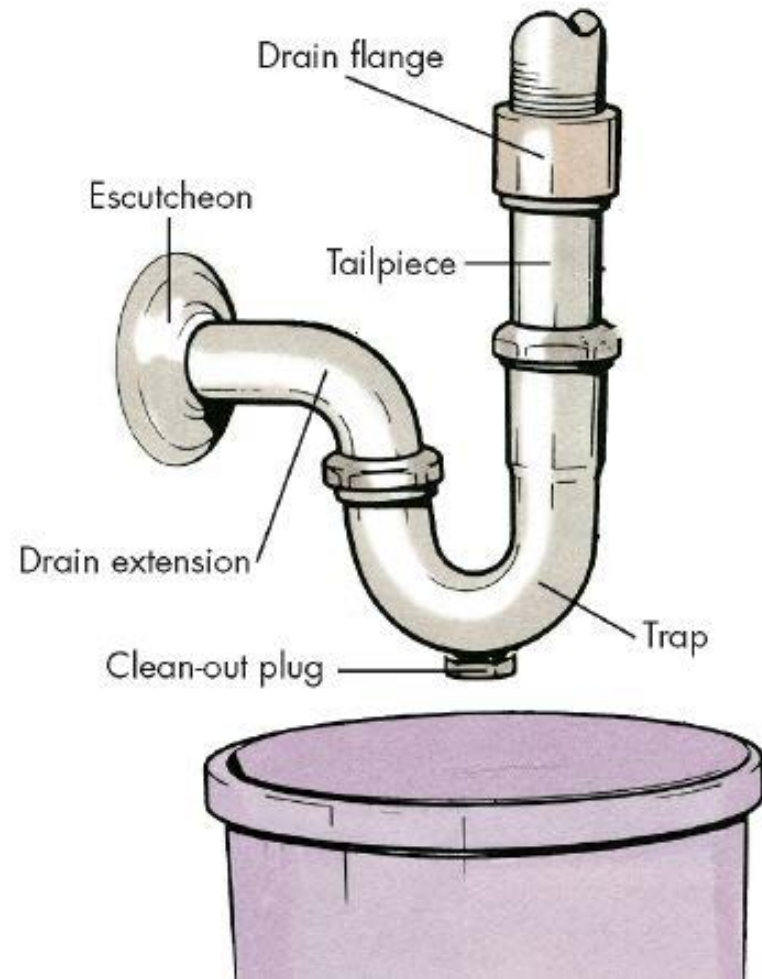
How a Bathroom Sink Works

- The pop-up assembly body on the sink basin (the part that you can see in the sink) is the rubber gasket and locknut.
- These connect to the strainer sleeve which connects to a tailpiece. All this leads to the p-trap.
- The p-trap is removable to clean out accumulations that slow drainage. It connects to the pipe that takes the water out to the septic or sewer.



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Common Bathroom Sink Problems

- Faucets leaking
- Clogged p-traps
- Missing or worn slip nut gasket
- Shut-off valve leaking
- Worn or damaged pop-up assembly
- Drain pipe leaking
- Supply lines leaking



Faucets Leaking

Solutions:

- Replace stem or cartridge
- Replace faucet stem
- Replace O-ring gasket
- Replace faucet



Clogged P-Traps

Solutions:

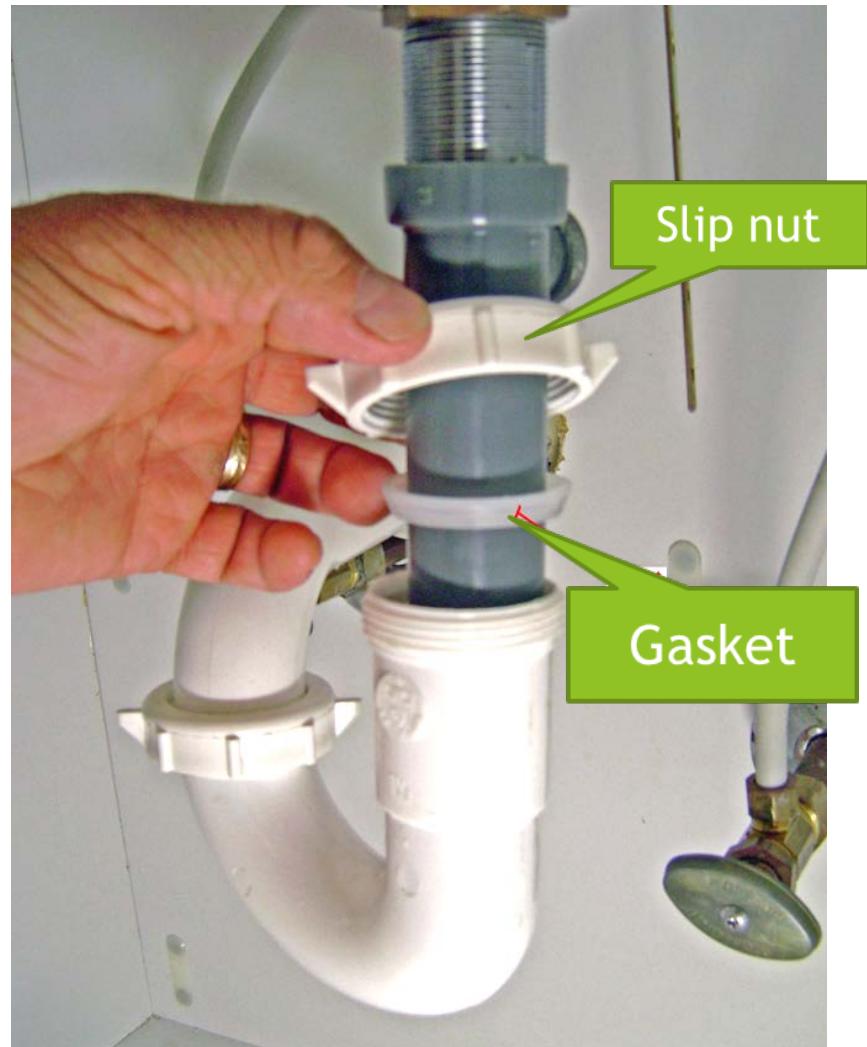
- Remove p-trap and clean out trap
- Replace it
- Install a pressure p-trap



Missing or Worn Slip Nut Gasket

Solutions:

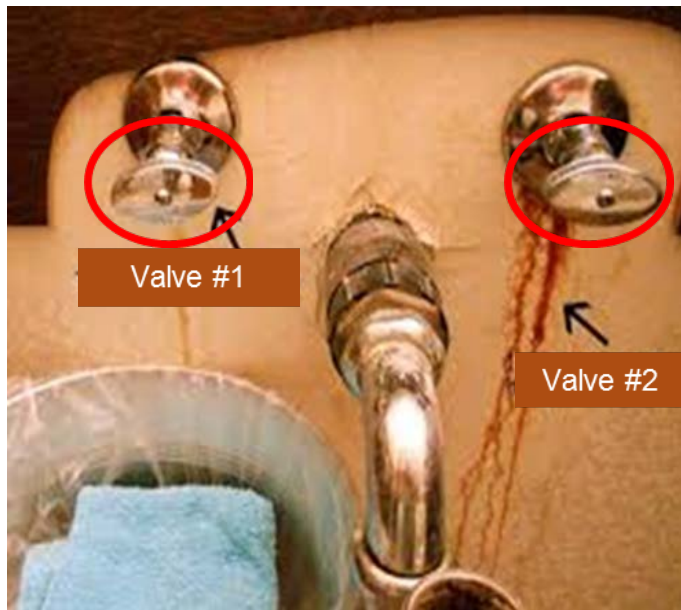
- Replace gasket
- Tighten slip nut
- Replace slip nut



Leaky Shut-Off Valves

Solutions:

- Tighten packing nut
- Replace packing nut
- Check water supply line



Leaky Supply Lines

Solutions:

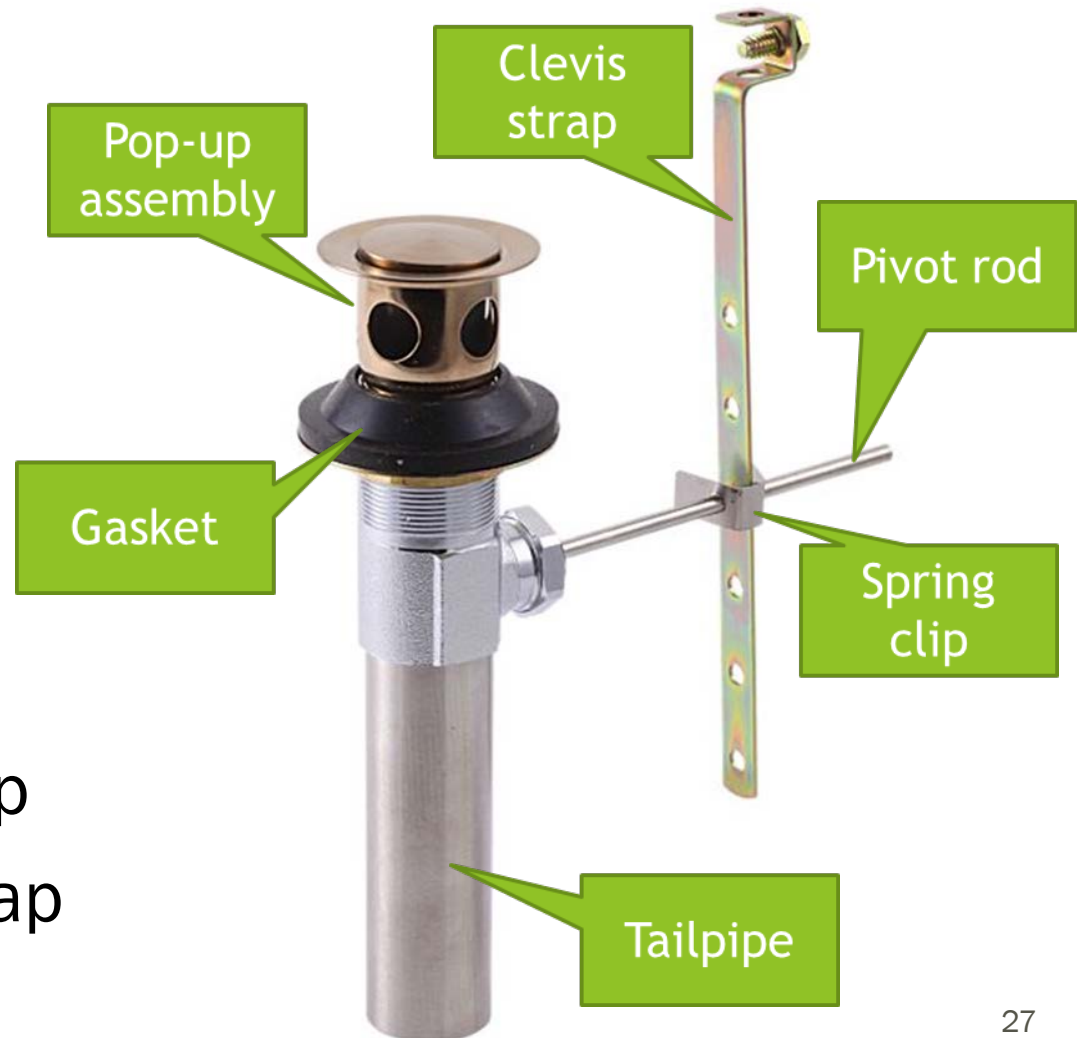
- Always check your connections
- Tighten any line that feels loose
- Replace it



Worn or Damaged Pop-Up Assembly

Solutions:

- Replace gasket
- Replace tailpipe
- Replace or repair pivot rod
- Replace pop-up assembly
- Replace spring clip
- Replace clevis strap



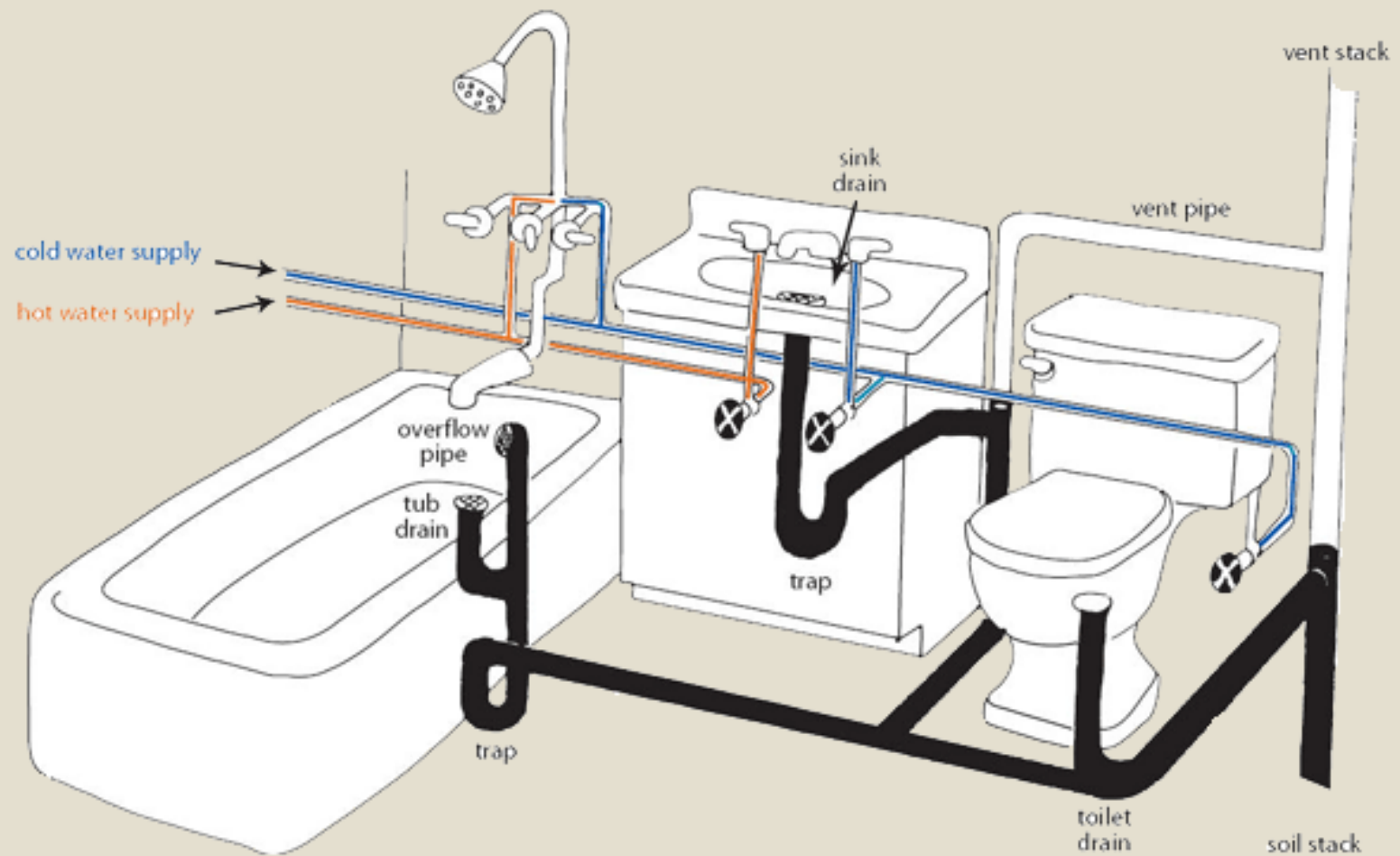
Drain Pipe Leaks

Solutions:

- Tighten slip nut
- Replace or repair gasket
- Replace piping



Bath Tubs



WASTE & SUPPLY PLUMBING

Bath Tubs



Use a product such as Tub Shroom or a strainer cover to prevent hair and other items from going down your drain and clogging the drain pipes.



Break



Tomorrow is the end of Daylight Savings Time. Remember to change the batteries in your smoke detectors. Visit the Henrico Fire table to talk more about smoke detectors and fire prevention.



Exhaust Fans

- Exhaust fans provide ventilation to your bathroom, helping to remove moisture and prevent problems such as fogged mirrors, odors, mold, and mildew.
- It is important to keep exhaust fan clean



Mold & Mildew



Mold



Moisture is the key cause to mold and mildew. Poor ventilation will cause wet surfaces to dry out more slowly. Ventilation is very important in rooms with a lot of moisture such as the bathroom and kitchen.

Mold

Conditions Mold Needs to Grow:

- Mold spores
- A food source (wood, drywall, cotton)
- Darkness (mold can't grow under ultraviolet light)
- Warmth (mold can't grow in freezing temperatures)
- Oxygen
- Moisture (water leak, humidity)
- Enough time (most mold can begin to grow in 24-48 hours if the conditions are right.)



Mold

How to prevent mold:

- Prevent moisture from spreading
- Fix all water leaks
- Reduce humidity
- Mold and mildew resistant caulk



Basic Electrical



Electrical

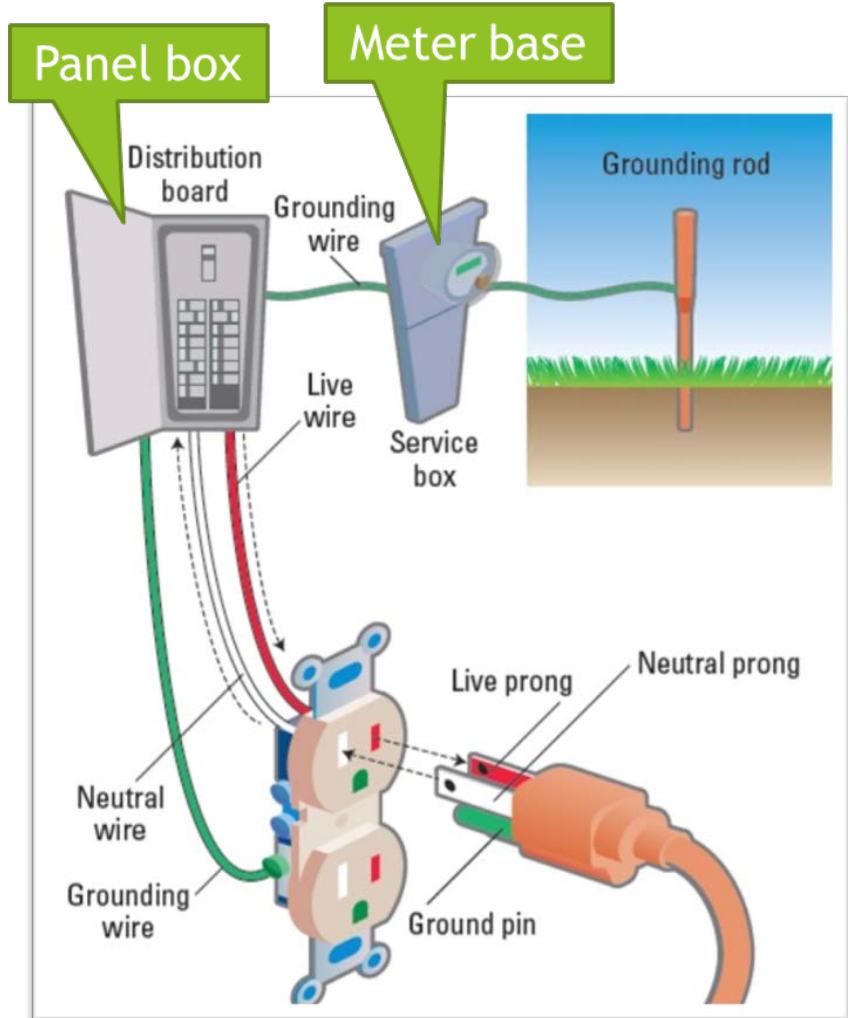
- This objective will help homeowners understand the functionality of their electrical equipment as well as how to properly fix, install, and maintain minor electrical issues.
- Identify tools needed to fix minor repairs.



Safety: Always disconnect power before starting ANY electrical repairs

How Does Electrical Service Work?

- Electricity enters your home via a 240v power line into your meter base outside the home.
- The panel box that feeds from the meter base contains breakers (or fuses in older homes).
- Circuit breakers divert the electricity along small wires running behind your walls, crawl space, and roof.
- Houses have multiple circuits to help reduce the risk of overloading the circuits.
- Fuses and circuit breakers automatically block incoming surges of electrical power over a safety limit.



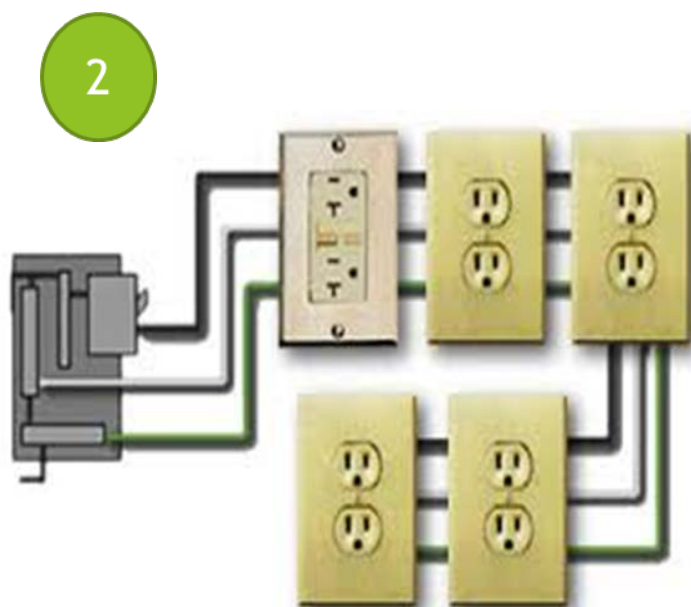
Common Electrical Problems

- Tripped GFCI (Ground Fault Circuit Interrupter)
- Tripped breaker
- No power to wall outlet
- Lights flickering
- Broken bulb in fixture
- Broken or missing outlet plate cover
- Broken or burnt outlet



Tripped GFCI (Ground Fault Circuit Interrupter)

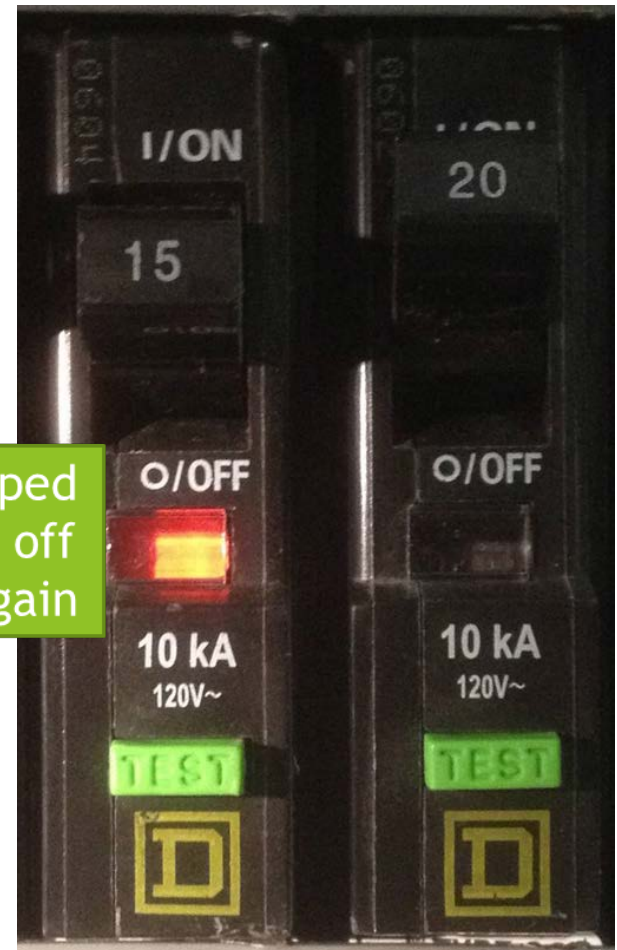
1. Reset set GFCI by pushing the reset button
2. Check breakers in your home panel box.
3. Replace it



Tripped Breaker

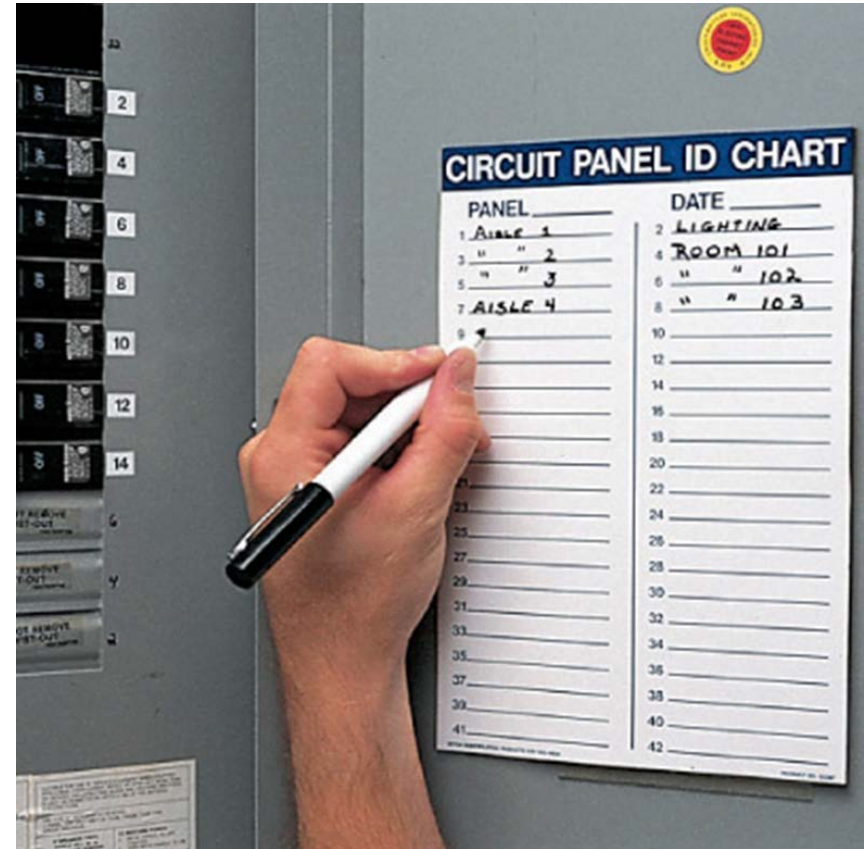
Solutions:

- Reset breaker
- Figure out what's plugged in – this will help you predetermine what is pulling some amps.
- If a breaker trips frequently have a certified electrician come to inspect the problem.



Importance of Proper Labeling

- Go through panel box to figure out which breaker is connected to electrical aspects of your house
- Each breaker controls the different parts of the home's electricity
- Important to shut appropriate breaker off of electrical item being repaired, replaced, or installed



Missing or Broken Outlet Plate

Solutions:

Install new outlet plate



Broken or Burned Outlet

Solutions:

- Turn power off at the breaker
- Replace outlet
- Make sure you wire the outlet the same way it is currently wired
- Use outlet tester to check if outlet is properly wired.

