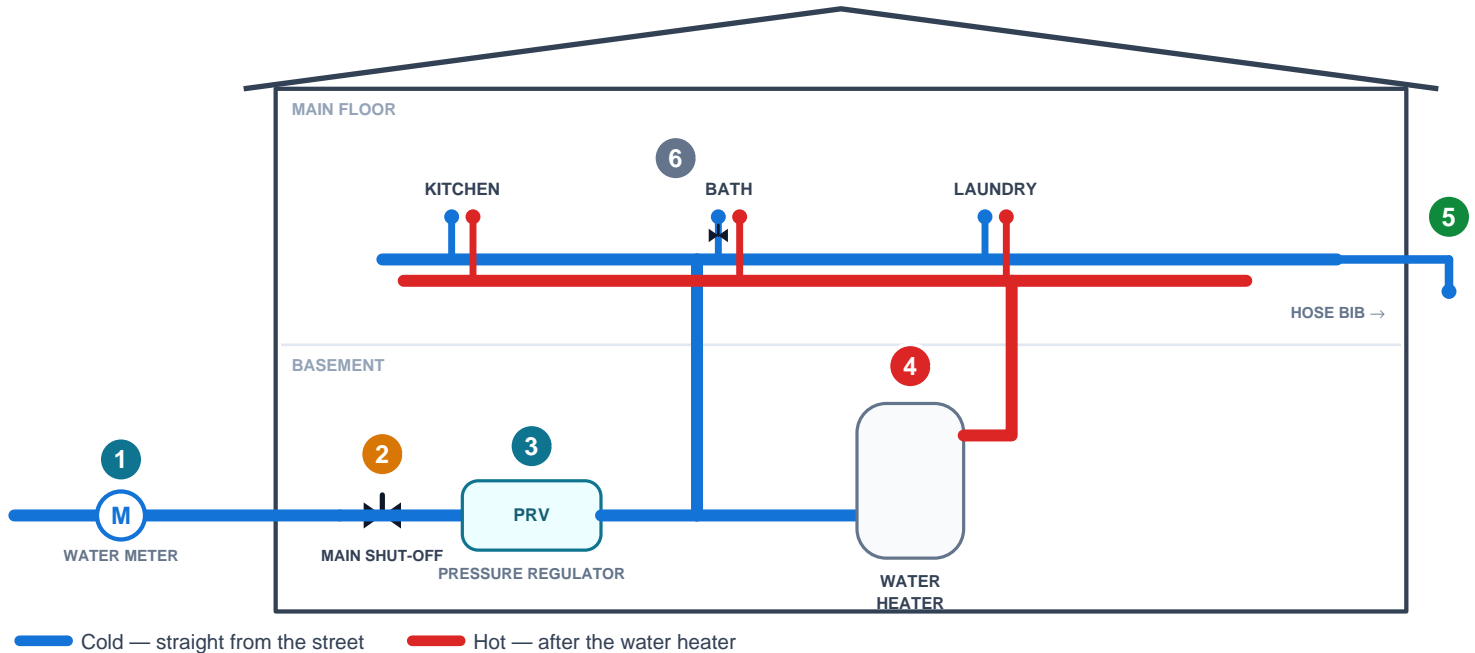




## THE HOMEOWNER'S PLUMBING TOUR

# How water moves through your house

Nobody hands you a tour of your own plumbing when you buy a house — so here it is. Six steps, one picture. Know these six and you'll catch problems early, shut things down fast in an emergency, and follow exactly what any plumber is telling you.

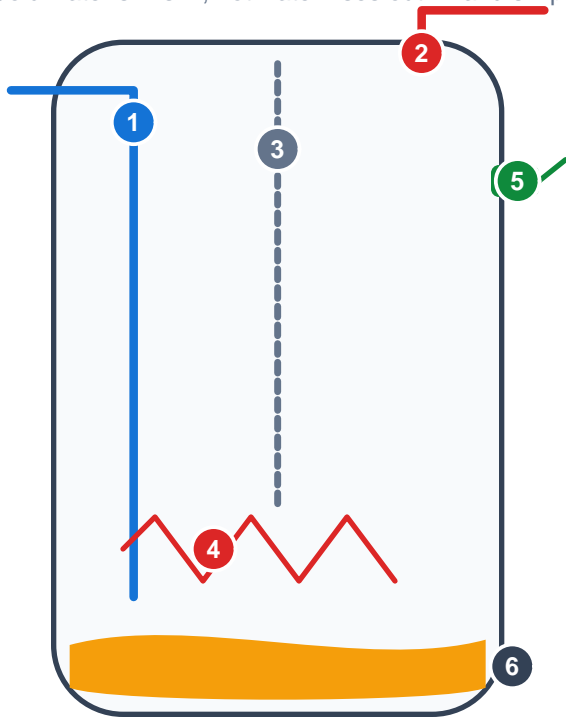


- 1 Water meter** — where the utility's pipe becomes yours — and your leak detector (more on p4).
- 2 Main shut-off** — THE valve to know. Burst pipe? This stops everything. Find it before you need it.
- 3 Pressure regulator (PRV)** — tames street pressure to a house-safe level. Not every home has one.
- 4 Water heater** — cold in, hot out — and the hardest-working appliance you own (page 2).
- 5 Hose bib** — a classic backflow point — that little vacuum breaker exists for a reason (page 3).
- 6 Fixture shut-offs** — every sink and toilet has its own small valve, so one repair doesn't shut the house.

## STOP 4, UP CLOSE

# The water heater, demystified

Cold water sinks in, hot water rises out — and six parts decide how long it lives.



- 1 Dip tube** — sends incoming cold water to the **BOTTOM** of the tank, so the hot stays layered on top.
- 2 Hot outlet** — draws from the top, where the hottest water lives.
- 3 Anode rod** — the sacrificial rod — it corrodes **ON PURPOSE** so the tank doesn't. Once it's gone, the tank starts rusting.
- 4 Heating element / burner** — does the work — and it's the first thing scale buries.
- 5 T&P relief valve** — the safety: opens if temperature or pressure runs away. A drip here is your house talking to you.
- 6 Drain valve** — where an annual flush happens — see below.

## WHY HEATERS DIE YOUNG

### Three slow killers

#### Scale & sediment

Hard-water minerals bake onto the element and settle as sediment — popping or rumbling sounds are the tell.

#### A spent anode rod

Cheap to replace, ruinous to ignore — once it's consumed, corrosion turns on the tank itself.

#### Pressure & expansion

High pressure and thermal expansion strain the tank every single day (page 3).

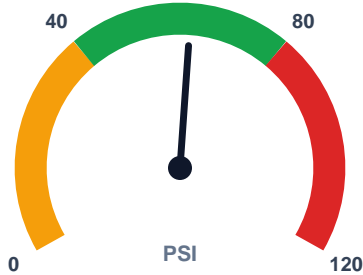
**Owner moves:** flush the tank once a year (hose on the drain valve, 10 minutes) · test the T&P lever twice a year · find the age on the serial number — most tanks live 8–12 years, softened water stretches that.

Tankless? Same story, smaller pipes — scale matters **MORE**, not less: those narrow passages are why manufacturers want annual descaling in hard-water areas.

## THE INVISIBLE FORCES

# Pressure & backflow

You can't see either one — but they decide how long everything else lasts.



healthy: roughly 40–80 psi

### Water pressure is your house's blood pressure.

Too HIGH (above ~80 psi) silently hammers every fixture, hose, valve, and appliance — it's the hidden cause behind “things keep breaking.” Too LOW and showers crawl. The pressure regulator (PRV) from page 1 is what holds the healthy middle; they wear out in 10–15 years and most people never know theirs has failed.

Thermal expansion is the sneaky cousin: heated water expands, and in a closed system the extra volume needs somewhere to go — that's the small expansion tank above many water heaters. A T&P valve that drips after showers is often this, not the heater itself.

**Check it yourself: a \$10 gauge threads onto any hose bib. Two minutes, real number.**

## STOP 5, UP CLOSE

### Backflow — why water must only move one way

#### NORMAL DAY



Street pressure pushes water INTO the house. One direction. All good.

#### MAIN BREAK / HYDRANT OPEN



Pressure drops — and the flow can REVERSE, siphoning back whatever a hose is sitting in.

Picture a garden hose left in a pool, a bucket of soapy water, or a fertilizer sprayer when the street pressure suddenly drops: the siphon can pull that water backward into your pipes — and your neighbors'. That's backflow, and it's why the small one-way gadgets exist:

**Vacuum breaker — the little cap on hose bibs**

**Air gap — why faucets sit ABOVE the sink rim**

**Backflow preventer — required on irrigation lines**

If yours are missing or broken, it's usually a small fix — and it protects the whole street, not just you.

## WHAT YOUR WALLS ARE HIDING

# Know your pipes (by era)



**Copper**  
1960S → TODAY

The long-haul classic. One caveat: solder before the 1986 lead ban can contain lead — worth a test in older homes.



**Galvanized steel**  
PRE-1960S

Rusts shut from the inside: weak flow, brown water after vacations. Living on borrowed time.



**PEX**  
LATE 1990S → TODAY

Flexible, freeze-tolerant, quiet. The modern default for repipes.



**CPVC**  
1980S → TODAY

Cream-colored rigid plastic. Fine — but gets brittle with age and dislikes big pressure swings.



**Polybutylene**  
~1978-1995

Gray plastic with a known failure record — insurers flag it. If you see it, plan its replacement.



**Lead service line**  
OLDER HOMES

The pipe FROM the street in some older neighborhoods. Spot check: dull gray, a coin-scratch turns shiny silver, and a magnet won't stick. If that's yours — test the water.

## DO THIS ONCE

### Your 10-minute self-tour

- ✓ **Find the main shut-off** — and show everyone in the house
- ✓ **Check the heater's age** — serial number decodes the build
- ✓ **Eyeball visible pipes** — match them to the era table above
- ✓ **Read the meter** — everything off — if the dial still creeps,
- ✓ **Gauge your pressure** — \$10 gauge on a hose bib; healthy is
- ✓ **Look for drips** — at the T&P valve and under every fixture

RATHER WALK IT WITH A PRO? — FREE

## The free Home Water Checkup is exactly this tour — at your house

A licensed SwiftPro specialist checks your water heater, pressure, and hardness — then gives you straight answers on what's worth doing for your house. No pressure, no obligation.

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