Record your household and fixtures

Home Water Audit & Upgrade Comparison Worksheet. Measure what you have, estimate task water use, then compare feasible changes.

Use this paper version with a calculator, or use the companion Excel workbook for automatic calculations. Make extra copies of pages 1–4 for more fixtures and page 5 for each replacement option.

Keep the evidence clear. M = measured by you; R = documented product rating; E = estimated or logged household use. All annual usage and savings outputs are estimates. Worked examples on page 6 are hypothetical.

Audit date: _____ Household size: _____ Home type: _____

People / routines / seasonal conditions during your log:

A Fixture inventory

Assign one ID per physical fixture. For documented ratings, record a numeric value, its units and the evidence source/date. In Excel, Inventory E/F/G supplies the R rate to Usage.

ID	Type and location	Current specification and units	Evidence source / date
F01			
F02			
F03			
F04			
F05			
F06			
F07			
F08			

Types: bathroom faucet, kitchen faucet, showerhead, toilet, appliance. Units: GPM = US gallons/minute; GPF = US gallons/flush; appliances = US gallons/cycle. Do not guess GPF from age.

Use one record for each use. Household size is context, not another multiplier. An aerator and its faucet are the same water use. Compare one selected option per fixture; do not add savings from competing alternatives.

Measure faucet and shower flow

B Repeat the same test three times at the same setting. Carry the fixture ID from page 1 into each row.

You need: a container with a verified US-gallon volume mark, a stopwatch and a way to capture the whole stream. Use cool water and stable footing. Avoid spills or reaching into an unsafe position.

Method: run the fixture at a steady, representative setting. Start timing as collection begins and stop at the volume mark. Record the volume and elapsed seconds. Repeat twice without changing the setting. Note the setting, spray mode and other water use.

Each trial GPM = collected US gallons × 60 ÷ seconds.
Adopted GPM = (trial 1 GPM + trial 2 GPM + trial 3 GPM) ÷ 3.
Use the mean of the rates, not 60 divided by mean time. Keep unrounded rates for later calculations. Method context: DOE-funded PNNL [S6].

Fixture ID	Volume gal each trial	Seconds 1 / 2 / 3	Calculated GPM 1 / 2 / 3	Adopted GPM

Test date and handle / spray settings by fixture ID:

Variation, spills or other conditions needing a retest:

Hypothetical measurement: 0.50 US gal collected in 12 seconds gives 0.50 × 60 ÷ 12 = 2.50 GPM. Three identical trials give an adopted rate of 2.50 GPM. This is an arithmetic example, not a test result.

1 US gallon = 4 US quarts = 16 US cups. Use US units, not Imperial gallons. Full-open flow may differ from normal task flow. Match the measured setting to the running minutes you enter on page 4.

The workbook flags volume outside >0–10 gal, time outside 1–3,600 sec or trial flow above 20 GPM. These are worksheet sanity checks, not EPA limits. Verify units and setup if flagged. A home flow test cannot establish WaterSense certification.

Observe leaks and plan follow-up

C Look and listen before considering optional upgrades. Record what you actually observed, including checks not completed.

Check faucets and showerheads when off for drips or stray spray. Listen for toilet refilling. Look at accessible under-sink fittings, visible supply lines and appliance hoses for moisture, stains or pooling. Do not loosen fittings or dismantle plumbing.

Optional toilet dye check [S4]: add a few drops of food coloring to the tank. Wait 10 minutes without flushing. Color in the bowl indicates a leak. Flush promptly after the check to limit staining.

Area / fixture ID	Observation Yes / No / Not checked	Notes and next action
Faucets		
Toilets		
Showerheads		
Visible plumbing		
Appliance hoses		

Optional meter check

Where customer access is permitted, compare meter readings across two hours with no water use, including automatic appliances and irrigation [S4]. Do flow and dye tests outside this interval. Read only; leave sealed equipment and utility valves alone.

Start time / reading	End time / reading	Meter units / movement

Movement can indicate a leak. No movement does not rule out intermittent leaks. A short test is not a verified annual leak volume. Keep it separate from fixture-use estimates.

Follow-up takes precedence. Active damage, suspected hidden leaks, inaccessible plumbing or uncertain hot-water-system leaks need your utility or an appropriate professional. A leaking fixture may need repair rather than replacement.

Action owner and target date: _____ Retest date: _____

Estimate use by individual fixture

D Log several representative days. Use household totals for this specific fixture, including all users and repeat flushes.

Faucets/showers: measured M or documented R GPM × running minutes/day.
Toilets: documented GPF × flushes/day.
Appliances: documented gallons/cycle × cycles/day for the specified program.

Monthly estimate = gallons/day × month days. Selected planning month: _____ days (workbook default: 30).
Annual estimate = gallons/day × 365. This assumes today's average use continues for a full year, including the same occupancy and habits.

ID	Rate and unit M or R	Daily minutes, flushes or cycles E	Calculated gal/day	Estimated gal/month	Estimated gal/year

Log dates, source of frequency/duration, and unusual conditions:

Optional dual-flush helper — current or proposed toilet:
Reduced: _____ GPF × _____ flushes/day. Full: _____ GPF × _____ flushes/day.
Total flushes/day: _____. Gallons/day = sum of the two products: _____.
Weighted GPF = gallons/day ÷ total flushes: _____. Use 0 < reduced ≤ full ≤20 GPF, and whole counts ≥0 (total ≤1,000). Zero flushes = 0 gal/day and no weighted GPF.

Excel Usage C: explicitly choose M (measured Flow) or R (documented Inventory rating, matching units and evidence). No automatic fallback. The optional helper calculates weighted GPF/counts for transfer into the primary inputs; do not add its gallons again.

Prevent double-counting: assign each minute, flush or cycle to one fixture only. Do not add meter/bill totals to these estimates. No whole-home total is provided because irrigation, baths, other equipment and leaks may be missing.

For a fixed-volume task such as filling a pot or tub, lower GPM alone does not reduce gallons. Exclude those minutes from a constant-duration upgrade calculation. Record appliance programs and use compatible cycle assumptions.

Compare one replacement option

E and F Copy this page for each option. Use the same units and task use for the current fixture and proposed replacement.

Fixture ID and location: _____ Proposed model: _____

Current rate: _____ Proposed rate: _____ Units: GPM / GPF / gal per cycle

Rating / listing source and date: _____

Household running minutes / flushes / cycles per day: _____

Daily gallons difference = (current rate − proposed rate) × daily task use.
Daily difference: _____ gal/day × 365 = _____ estimated gal/year.
Keep a negative result: it means the option uses more water. Equal rates give zero rate-based savings.

Cost and practicality

Cost item	Your estimate or quote (USD)	Source / date
Purchase		
Required parts		
Installation labor		
Total installed cost		

Installed cost = purchase + parts + labor. Enter zero only when genuinely free or not needed. Leave unknown costs unknown. No product prices or rebates are assumed.

Effort: Simple / Moderate / Pro Feasible and permitted? Yes / No / Unknown

Priority: _____ Next action and date: _____

Priority rule: resolve leaks first. “Consider first” means feasible, positive annual reduction at/above your cutoff, full installed cost within budget, and Simple effort. Other positive options: “Plan / compare.” No/unknown fit: resolve feasibility first.

Your cutoff: _____ gal/year (default 1,000). Your budget: $_____ (default $100). Simple = accessible routine swap you can safely do; Moderate = more parts/time; Pro = qualified installer. These are GreenerPulse planning choices, not EPA standards.

Optional cost estimate: annual gallons difference ÷ 1,000 × your avoidable water/sewer rate of $_____ per 1,000 gal = $_____ per year. Exclude fixed fees and energy. Tiered rates, sewer caps or minimum charges may change the result. [S7]

Check the worked examples

All inputs below are hypothetical. They demonstrate the formulas and are not measured household results or claims about a product.

Example	Current → proposed rate	Daily use assumed	Gal/day saved	Gal/year saved
Shower	2.50 → 2.00 GPM	16 min	8.00	2,920.00
Bathroom tap	2.20 → 1.50 GPM	5 min	3.50	1,277.50
Toilet	1.60 → 1.28 GPF	10 flushes	3.20	1,168.00
Higher-flow option	1.50 → 2.00 GPM	5 min	−2.50	−912.50

Shower arithmetic: assume two showers per day at this showerhead, each running 8 minutes: 2 × 8 = 16 min/day. Current use = 2.50 × 16 = 40 gal/day. Proposed use = 2.00 × 16 = 32 gal/day. Difference = 8 gal/day; ×30 = 240 gal/month; ×365 = 2,920 gal/year.

Optional dollar example: assume an avoidable volume rate of $12 per 1,000 gal. The shower difference is 2,920 ÷ 1,000 × $12 = $35.04/year. This tariff is an example, not a national rate or utility quote.

Priority example: assume showerhead purchase $50 + parts $10 + labor $0 = $60 installed, Simple effort and confirmed fit. At a $100 budget and 1,000 gal/year cutoff, the example qualifies as “Consider first.” These cost and effort assumptions are hypothetical.

Understand what the model leaves out

Actual savings depend on use, pressure, installation and fixture performance. Longer shower time or repeat flushing can offset a lower rating. Measured flow and laboratory-rated replacement flow are not necessarily measured under identical conditions.

A few logged days may not represent a year. Monthly estimates are planning figures, not billed volumes. Bill comparisons also reflect weather, occupancy, outdoor use and other changes. No guaranteed savings, payback or energy reduction is calculated.

Keep alternatives for the same fixture separate. Fix and retest leaks before estimating optional upgrades. Do not add leak-repair savings to a replacement estimate unless you can show that the counted volumes do not overlap.

After installation: date, repeated flow test and observations:

Use the sources and limitations

G Primary references checked 31 October 2026. Official criteria provide context; your measurements and usage drive your estimate.

S1 EPA WaterSense Bathroom Faucets
Bathroom sink faucets/accessories: maximum 1.5 GPM. EPA faucet labeling covers private lavatory and bar sink faucets, not kitchen faucets.
https://www.epa.gov/watersense/bathroom-faucets

S2 EPA WaterSense Showerheads
WaterSense showerheads use no more than 2.0 GPM and meet certification criteria.
https://www.epa.gov/watersense/showerheads

S3 EPA WaterSense Residential Toilets
WaterSense tank-type toilets use 1.28 GPF or less and meet certification criteria.
https://www.epa.gov/watersense/residential-toilets

S4 EPA WaterSense Fix a Leak Week
Supports the 10-minute toilet dye check and two-hour meter check with no water use.
https://www.epa.gov/watersense/fix-leak-week

S5 EPA WaterSense Product Search
Verify the exact model listing. A low flow/flush rating alone does not establish certification.
https://lookforwatersense.epa.gov/products/

S6 DOE-funded PNNL Water Flow Rate
Building America Solution Center: known container volume and draw time can determine flow.
https://basc.pnnl.gov/redcalc/tool/water-flow-rate

S7 EPA Understanding Your Water Bill
Billing units, charges and rate structures; 1 CCF/HCF is approximately 748 US gallons.
https://www.epa.gov/watersense/understanding-your-water-bill

Before buying: check local plumbing rules, fit, pressure, toilet rough-in, accessibility, permissions and installation needs. Local requirements may be stricter. This is a GreenerPulse educational tool, not an EPA or DOE form, endorsement, certification or installation instruction.

Companion guides: greenerpulse.com/home-water-efficiency/
greenerpulse.com/home-water-audit/