Printable worksheet

# Home water audit: find out how your family uses water

A printable home water audit for children: time showers, catch drips, run a toilet dye test and read the water meter with an adult, then plan one change.

| Ages | Time needed | Materials |
| --- | --- | --- |
| 8–14 (with an adult helper) | About 1 hour spread over one week, plus a 2-hour meter check | Measuring jug (1 litre or larger), Bucket, Stopwatch or phone timer, Food colouring, Torch, Calculator, Pencil and this sheet |

## Learning goals

By the end of this audit you will be able to:

- Measure how much water flows from a shower or tap.
- Find hidden leaks using simple tests.
- Calculate how much water your household uses for one activity.
- Choose one realistic change and measure whether it helps.

## Step-by-step instructions

### Part 1: Shower flow (with an adult)

1. Ask an adult to turn on the shower at its usual setting. Hold a bucket under it for exactly 10 seconds.
2. Pour the water into the measuring jug and record how many litres you collected.

3. Multiply by 6 to find litres per minute.
4. For one week, time each family member's shower (ask permission first, and time from outside the door).
5. Calculate the water used for each shower: litres per minute × minutes.

### Part 2: Tap drip check

1. Turn every tap in the home off firmly.
2. Use a torch to look for drips at the spout and around the handles.
3. If a tap drips, put the measuring jug under it for 10 minutes and record how much water collects.
4. Calculate the daily loss: millilitres in 10 minutes × 144.

### Part 3: Toilet dye test (with an adult)

1. Ask an adult to lift the lid off the toilet cistern (tank). It can be heavy and can break.
2. Add 5–10 drops of food colouring to the water in the cistern. Do not flush.
3. Wait 10 minutes, then look in the toilet bowl.
4. If coloured water appears in the bowl, the toilet is leaking. Flush afterwards to clear the colour.

### Part 4: Meter check (with an adult)

1. Ask an adult to find the water meter and read the numbers. Write them down.
2. Make sure nobody uses any water for 2 hours (no taps, toilets, washing machine or dishwasher).
3. Read the meter again. If the numbers have changed, there is probably a hidden leak.

### Part 5: Make a plan

Choose one change, such as shorter showers or reporting a leak for repair, and repeat the measurement a week later.

## Recording tables

**Shower flow:** litres in 10 seconds: _____ × 6 = _____ litres per minute

| Person | Day 1 (min) | Day 2 (min) | Day 3 (min) | Day 4 (min) | Day 5 (min) | Average (min) | Litres per shower |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

**Leak checks:**

| Location | Drip or leak found? (yes/no) | Water in 10 minutes (ml) | Estimated loss per day (litres) | Reported to adult? |
|---|---|---|---|---|
| Kitchen tap | | | | |
| Bathroom tap | | | | |
| Other tap | | | | |
| Toilet (dye test) | | | | |
| Outside tap or hose | | | | |

**Meter check:**

| Reading at start | Reading after 2 hours | Did it change? |
|---|---|---|
| | | |

**My plan:** The change we will try is: _____

| | Before the change | After the change | Difference |
|---|---|---|---|
| Litres used | | | |

## Reflection questions

1. Which activity in your home used the most water?
2. Did you find any leaks? How much water could they waste in a year?
3. Which change was easiest for your family? Which was hardest?
4. Why might saving water matter more in some parts of the world than others?
5. Growing food uses a lot of water. How could wasting less food also save water?

## Safety notes

- Always have an adult present for the shower test, cistern lid and water meter.
- Adults should control hot water. Check the temperature before touching shower water.
- Bathroom floors can be slippery when wet. Mop up spills.
- Never climb on toilets, sinks or baths.
- Do not try to repair leaks yourself. Report them to an adult.
- Food colouring can stain. Use it carefully and wash hands afterwards.

## Background for adults

This audit adapts household leak checks recommended by the US Environmental Protection Agency's WaterSense programme. The EPA's Fix a Leak Week page describes the toilet food-colouring test and the two-hour meter check, and estimates that the average US household's leaks can waste more than 9,300 gallons (roughly 35,000 litres) a year. It also notes that a tap dripping once per second can waste more than 3,000 gallons (over 11,000 litres) annually.

The EPA's Start saving page notes that bathrooms account for over half of water used inside US homes, which is why this audit focuses on showers, taps and toilets. Patterns differ between countries and households, so encourage children to treat their own measurements as the most relevant data.

Be sensitive to family circumstances: water costs and reliability vary widely. Frame the audit as an investigation rather than a judgement. For more activities and background, see the related article on teaching children about water conservation.