

Do It Yourself Household Water Assessment

How Water-Smart Is Your Household?

Is your house as water-efficient as it can be? This do-it-yourself household water use assessment will help you understand how much water you use, identify leaks and show you ways to reduce your water use. It will help you conserve water and save money at the same time!

1 How much water do you use?

Look at your water bill

The best way to determine how much water you use in a day is to calculate it from your water bill. Check how your bill measures water; it may be in cubic meters (m³), cubic feet (CF or CCF), gallons (gal) or liters (L). If your bill is not in gallons, use the conversion table to the right. If your water bill does not display average daily use, you can calculate it by dividing the number of gallons by days in the billing cycle. Divide this by the number of people living in your home. Record your answers on the included worksheet.

Check your water meter

Another way to estimate use is by reading your water meter. Water meters record how much water is used per household. Water meters are usually located near the front of your property. To determine how much water is used in your household, read your meter at the same time on two consecutive days. Subtract the first reading from the second one to see how much you use in a day. Repeat including weekends and weekdays and take the average reading.

How to conduct a Household Water Use Assessment

The assessment includes:

1. Analyzing how much water you use
2. Detecting leaks (pipes, toilets and faucets)
3. Checking for and using water-efficient appliances
4. Outdoor water use
5. Changing your water ways

$$\begin{aligned} \text{m}^3 \times 264 &= \text{gallons} \\ \text{CCF} \times 748 &= \text{gallons} \\ \text{L} \times 0.264 &= \text{gallons} \end{aligned}$$



How Efficient Is Your Water Use?

How does your water usage measure up? Note that water use varies by season. Now that you have calculated your water use per person per day, as described above, use that number to compare your usage to the rest of the metro area.

Gallons per Person per Day

Winter	Summer	Rank	Comments
50 to 65	65 to 80	EFFICIENT	You are using water wisely!! Share your techniques with your friends and neighbors.
70	91	AVERAGE	You use water like the average north Georgia resident. Learn how to conserve water and reduce your water bill.
Exceeds 70	Exceeds 100	INEFFICIENT	You are using too much water. Find out how to reduce waste and significantly reduce the bill.

2 Detecting Leaks



Check for leaks within your house by first turning off all water-using fixtures. Then check the meter dial for any movement. If the meter is moving when all the water in the house is turned off, you have a leak somewhere in your home. Also, any sudden increases in your water bill may indicate a leak.

Pipes

There are some easy ways to look for leaks in a house. Water marks on floors, walls or ceilings can indicate indoor pipe leakage. Outside, standing water on the ground or on pavement when there has been no rain can indicate a broken underground pipe.

Toilets

Check for toilet leaks by putting some food coloring or dye tablets in the tank. Wait 30 minutes. **DO NOT FLUSH THE TOILET.** If the water in the bowl changes color, you have a leak. To determine which part is the problem, draw a line on the tank at the water level. Turn off the water supply to the toilet. Wait another 30 minutes. If the water level stays the same, the leak is the refill valve or float. If the water level drops below the line, the problem is the flush valve or flapper.

Faucets

Simple observation can tell you if you have a bathtub or sink faucet leak. All those drips can add up, so if you see one, replace worn washers and valve seals as soon as possible. Visit <http://www.awwa.org/advocacy/learn/consERVE/dripcalc.cfm> to use the Drip Calculator and determine how much water those leaks can waste.

3 Checking & Changing Fixtures to Save Water



Faucets and showerheads

Your current fixtures may not be very efficient. Measure the flow rate of each faucet and showerhead in the house. To do this, you will need a plastic bag or bucket, a measuring cup and a second timer or a watch with a second hand. Use the included worksheet to record your answers.

- Place a bag or bucket to catch the entire stream of water before turning it on.
- Turn the water on full blast for exactly **five seconds**.
- Use a measuring cup to determine the volume of water in the bag/bucket.

Convert to gallons

- Multiply the number of cups of water in the bag/bucket by 0.0625 = ___ gallons
- Multiply the number of gallons by 12 to get a flow rate in gallons per minute (gpm).

If your showerhead uses more than 2.5 gpm, you could save water by replacing it with a new low-flow showerhead. These showerheads conserve water by mixing air with water to reduce the amount of water but still feel like higher flowing fixtures.

If your faucets (bathroom, kitchen or other) use more than 2.0 gpm, you need to change your existing aerator.

Toilets

If your home was built before 1992, it may contain inefficient toilets and can use as much as five times more water than newer toilets! If you don't know how old your toilet is or if a toilet is not labeled as 1.6 gpf (or gallons per flush), you may need to measure how much water the tank uses. Carefully shut off the valve to the toilet tank supply line. Then mark the water level in the tank reservoir. Flush the toilet. Now, re-fill the tank reservoir to the marked level using a measuring container to determine how much water is needed to flush the toilet. Once you've completed this task, don't forget to open the valve under the toilet.

If your toilet uses more than 1.6 gallons per flush you could save 50-75% by installing a new toilet. The savings on your water bill could pay for the new toilet within a few years.



Year Manufactured or Installed	Toilet Water Use Rate (gpf)
1994 – Present	1.6
1980 – 1994	4.5 – 3.5
1930 – 1980	8.0 – 5.0

Source: Amy Vickers, 2001

Other Appliances

Clothes washers and dishwashers are other large water users in the home. Older appliances typically use more water and do not offer low water using options. Replacing these appliances with more efficient ones can save on both water and energy.

- Washing Machine– A non-conserving washer uses an average volume of 40.9 gallons of water per load. A water conserving front loading washer uses an average 24.3 gallons of water per load. (Source: AWWA/H2ouse.org)
- Water Conserving Dishwashers- A family that replaces a 12-gallon per load machine with a 6-gallon per load machine, and runs the dishwasher four times per week will save about 1,250 gallons of water per year. (Source: AWWA)

4 Outdoor Water Use

Here are the simple steps in saving water outside:

- Have a sprinkler? Make sure the spray heads are not watering hard surfaces like your driveway.
- Don't over water your lawn. To promote strong root growth and drought tolerance in plants, water deeply and infrequently.
- Place an empty tuna can on your lawn to catch and measure the water output of your sprinklers. Water only 1" per week.
- Water during the early morning and the late evening. There is generally less wind and lower temperatures and therefore less water lost to evaporation.
- Use efficient irrigation method (drip irrigation) or hand water (if possible).
- Mulch around trees and plants to retain moisture around roots.
- Check for leaky hoses and faucets outside.
- Never leave the water running when using a hose. A hose nozzle with shut-off switch can save hundreds of gallons.
- Use a broom, not a hose, to clean the driveway or sidewalk. (Burn calories too!)
- Plant drought resistant trees and shrubs and minimize turf areas.
- Raise your lawnmower blade to at least three inches. A lawn cut higher encourages grass roots to grow deeper.



It's the Law!

All Georgians using public water must follow the Department of Natural Resources schedule for year-round outdoor watering:

- Odd-numbered addresses can water on Tuesdays, Thursdays and Sundays
- Even-numbered and unnumbered addresses on Mondays, Wednesdays and Saturdays
- No watering on Friday

Rain Sensor Shut Off Switch

In the metro North Georgia area, all new in-ground landscape irrigation systems must have an automatic rain sensor shut-off switch. A rain shutoff device (also called a rain sensor) is designed to halt irrigation in response to rainfall.



5 Changing Your Water Ways

Here are some tips that can significantly help you conserve water and save money indoors.

- Keep showers under five minutes.
- Turn off the water while brushing your teeth or shaving.
- Turn water faucet off tight.
- Run the dishwasher only when it is full.
- Run the clothes washer only when it is full.



Resources

For general information on water conservation

www.wateruseitwisley.com
www.northgeorgiawater.org

Information on inefficient fixtures & repairs

www.h2ouse.org
www.diynetwork.com
www.acmehowto.com
www.toiletology.com

Ultra Low Flow Toilet Performance

www.northgeorgiawater.org/MaPFinalReport.pdf

www.savingwater.org/docs/flushstar.pdf
(Seattle, WA list)

www.ci.austin.tx.us/watercon/toiletreatelist.htm
(Austin, TX list)

Toilet Flapper Information

www.toiletflapper.org
<http://www.saws.org/conservation/h2ome/toilet/flapper.shtml>



Household Water Assessment Worksheet

1. How much water do you use?

- Water consumption or use from your water bill _____ gallons **CCF** **L** **m³** (circle one)
- Convert to gallons (see Table 1) _____ .
- _____ days in billing cycle
- Household use = gallons (b.) ÷ days in billing cycle (c.) _____
- _____ number of people living in your home
- ANSWER: Divide household usage (d.) by number of people living in your home (e.)
_____ Compare this number with the chart

Table 1
m³ x 264 = gallons
CCF x 748 = gallons
L x 0.264 = gallons

2. Detecting Leaks: Check for and fix any leaks

- Pipes **yes** **no** (circle one)
- Toilets **yes** **no** (circle one)
- Faucets **yes** **no** (circle one)

How Efficient Is Your Water Use?		
Gallons per Person per Day		
Winter	Summer	Rank
50 to 65	65 to 80	EFFICIENT
70	91	AVERAGE
Exceeds 70	Exceeds 100	INEFFICIENT

3. Conserving Water

- Faucet and showerhead efficiency

	Faucet 1	Faucet 2	Faucet 3	Faucet 4	Faucet 5	Showerhead 1	Showerhead 2
Cups of Water in Bucket/Bag X 0.0625 = _____ # of Gallons							
# of Gallons multiply by 12 = _____ gallons per minute							

- Toilet 1** – Does the toilet have a stamp on the back (behind the seat) with 1.6 gpf (gallons per flush) on it?
_____ cups of water in toilet tank x 0.0625 = _____ # of gallons per flush

Toilet 2 – Does the toilet have a stamp on the back (behind the seat) with 1.6 gpf on it?
_____ cups of water in toilet tank x 0.0625 = _____ # of gallons per flush

Toilet 3 – Does the toilet have a stamp on the back (behind the seat) with 1.6 gpf on it?
_____ cups of water in toilet tank x 0.0625 = _____ # of gallons per flush

- Other Appliances

Does your washer machine allow you to change the water level for smaller loads? **yes** **no** (circle one)

Does your dishwasher allow you to change the amount of water used per cycle? **yes** **no** (circle one)

- Outdoor Water Use

1. Check for outdoor hose or spigot leaks.

2. If you have an automatic irrigation system, install a rain sensor.

3. Is the last number of your street address odd or even?

ODD - outdoor watering allowed Tuesday, Thursday, Sunday

EVEN - outdoor watering allowed on Monday, Wednesday, Saturday



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