

Fall Green Gardening Classes

Presentations and Slides from the Green Gardening classes that have already taken place can be found at www.GreenerDavis.org under “Workshops”

- October 20: Backyard Composting**
- October 27: Sustainable Landscaping**
- November 3: Tree Selection, Watering and Care (presented by Tree Davis)**
- November 17: Leak Detection and the City’s Customer Water Use Portal, AquaHawk**



Leak Detection & The City's Customer Water Use Portal (AquaHawk)



Common Household Indoor Leaks

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- Common types of leaks found in the home
 - Toilet flappers (can be silent)
 - Dripping faucets or showerheads
 - Other leaking valves
- Other leaks found in the home
 - Water softeners
 - Reverse Osmosis Systems
 - Hot water leaks



Common Outdoor Leaks

- Irrigation
 - Failing valves
 - Broken sprinkler heads and pipes
 - Holes in drip line
 - Missing drip emitters
- Pools and Spas
 - Cracked auto-fills
 - Stuck valves
- Ponds (less common)
 - Supply lines
 - Stuck valves



How Much Water Do Leaks Waste?

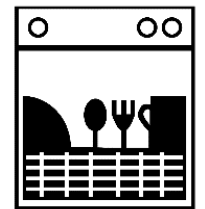
3

- Average household's leaks → 10,000 gallons of water/year (U.S. EPA)
 - Enough water to wash 270 loads of laundry!
- Irrigation Leaks
 - Small leak 0.031 inches in diameter (thickness of the tip of a ballpoint pen)
 - 6,300 gallons of water per month
- Showerhead drip
 - 10 drips per minute → 500 gallons per year
 - That's 60 loads of dishes!



**Small leak can =
6,300 gallons/month**

**Showerhead drip =
500 gallons/year**



x 60

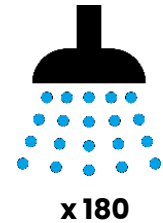
How Much Water Do Leaks Waste?

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■ Faucet Leaks

- One drip per second → 3,000 gallons per year
- Enough water for 180 showers!

Faucet Leak =
3,000 gallons/year



■ Toilet Leaks

- Volume for toilet leaks can vary greatly
- Many toilet leaks are even silent (especially toilet flapper leaks)



Checking for Leaks

- Water usage on utility bills
 - Check water usage graph on your bill
 - Is it significantly higher than the previous year?
 - Has the bill been increasing in the winter months?
- Water meter box
 - Is there water pooling in or around the meter box?
- Customer water use portal
 - Monitor daily and hourly water use
 - Look for continuous water use



Be a
Leak Detective
for
EPA WaterSense

Fix a Leak Week

Checking for Leaks – Indoors

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https://www.youtube.com/watch?v=JFUr__IDERo

Checking for Leaks – Indoors

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- Indoor pipes
 - Listen for water running in your home when nothing is in use
 - Hot water leaks by – check natural gas bill for spikes in use
- Toilets
 - Silent flapper leaks are common
 - Can be checked for using the dye test
 - Place 2-3 drops of food coloring in toilet tank
 - Leave coloring in tank for 15 minutes
 - If you see color in the toilet bowl, you have a leak
- Faucets and showerheads
 - Check kitchens, laundry rooms & bathrooms for drips
 - Tighten your taps



Checking for Leaks - Irrigation

Spruce Up Your Sprinkler System

look for **WaterSense** Meets EPA Criteria

Inspect sprinkler heads.
A broken one can waste **95,000** litres of water in six months!

Connect hoses and pipes well.
A leak as small as the tip of a pen can waste **23,000** litres of water per month!

Select a WaterSense® labeled irrigation controller and water smarter.

Direct spray on landscapes, not pavement!

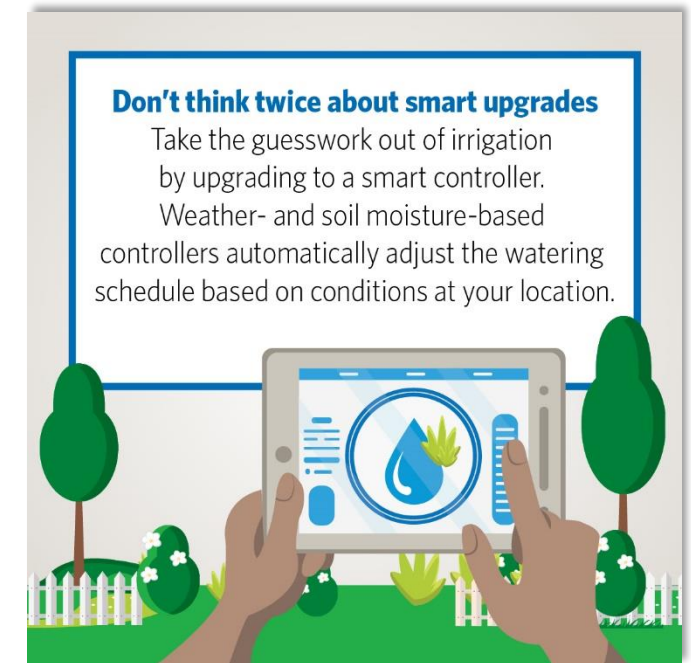
<https://www.youtube.com/watch?v=JvWJkGTMQsg>

Checking for Leaks – Irrigation

- Do you see standing water or areas of consistently moist soil?
 - Pooling water → irrigation valve leak
- Sprinkler heads
 - Are they broken or clogged?
 - Check sprinkler head at lowest elevation in yard
- Drip lines
 - Missing emitters
 - Holes in drip lines



- Irrigation (sprinkler timers)
 - Timer programming
 - Recent power outages
 - Timer malfunctioning
- To check for irrigation leaks
 - Turn water off at the timer and valve(s)
- Controller upgrades
 - Add a rain sensor
 - Consider a weather or soil moisture-based controller
 - Automatically adjusts to site conditions



Checking for Leaks – Outdoors

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- Look for dripping hose bibs
- Pools and Spas
 - Cracked auto-fills
 - Stuck valves
- Ponds
 - Supply lines
 - Stuck valves

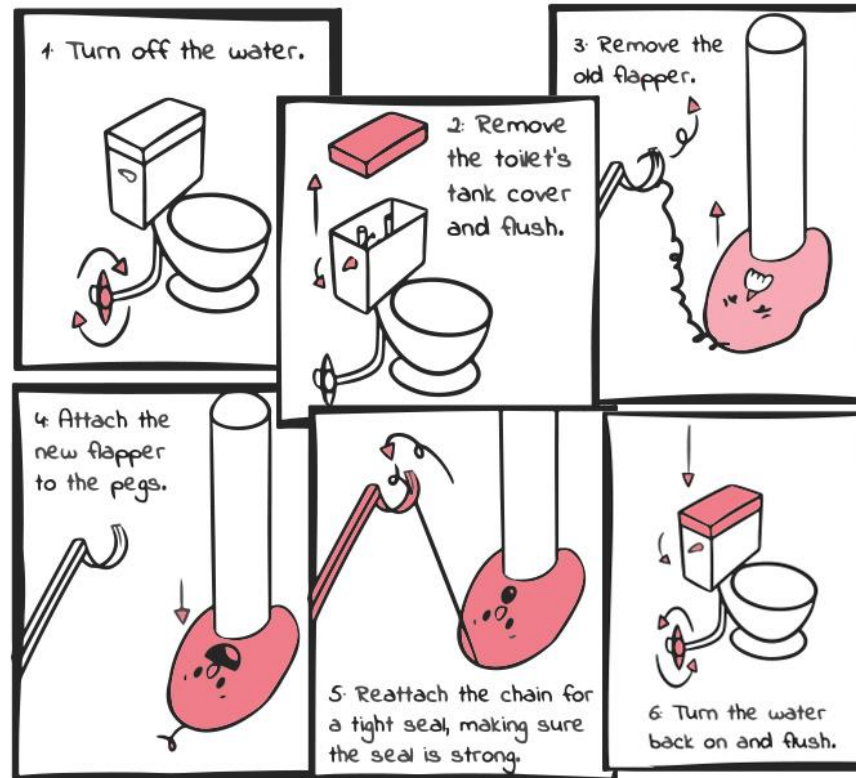


Replace a Toilet Flapper

How to
Replace a
Toilet
Flapper
in 6 Easy Steps

Save water by stopping
leaks in your bathroom.

www.epa.gov/watersense



<https://www.youtube.com/watch?v=TPeViXlgOPE>

Replace a Faucet Aerator

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How to Replace a Faucet Aerator in 4 Easy Steps



You will need:

- WaterSense Labeled Aerator
- Wrench (optional)
- Cloth (optional)

www.epa.gov/watersense



1: Cover your drain.



2: Remove aerator.



3: Remove rubber washer if stuck.



4: Twist on new WaterSense labeled aerator.



https://www.youtube.com/watch?v=fFQilU_zJ5U

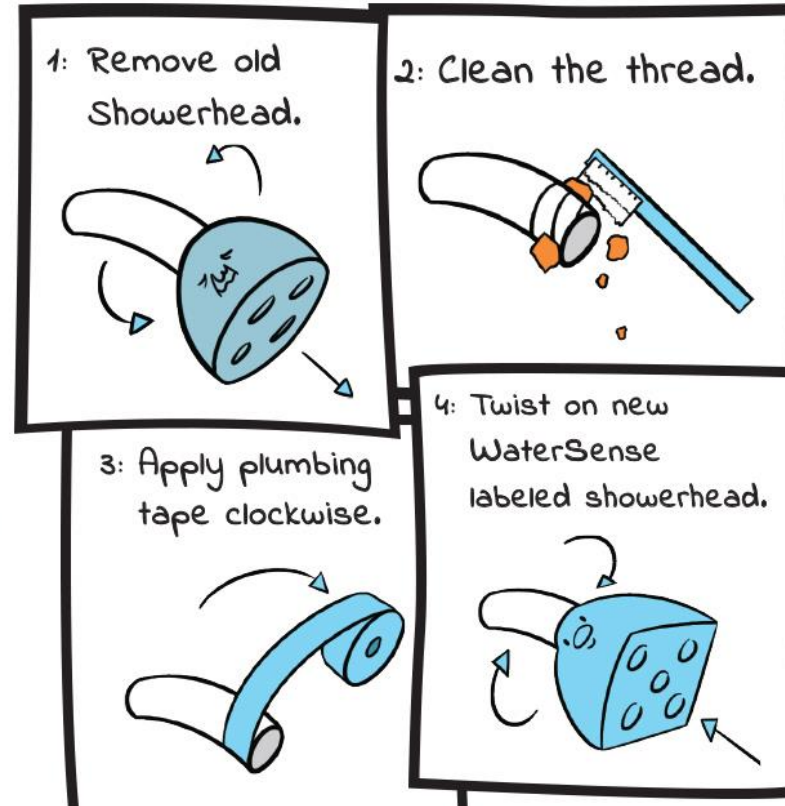
Replace a Showerhead

How to Replace a Showerhead in 4 Easy Steps

You will need:

- Toothbrush
- Plumbing Tape
- Cloth (optional)
- waterSense Labeled Showerhead
- wrench (optional)

www.epa.gov/watersense



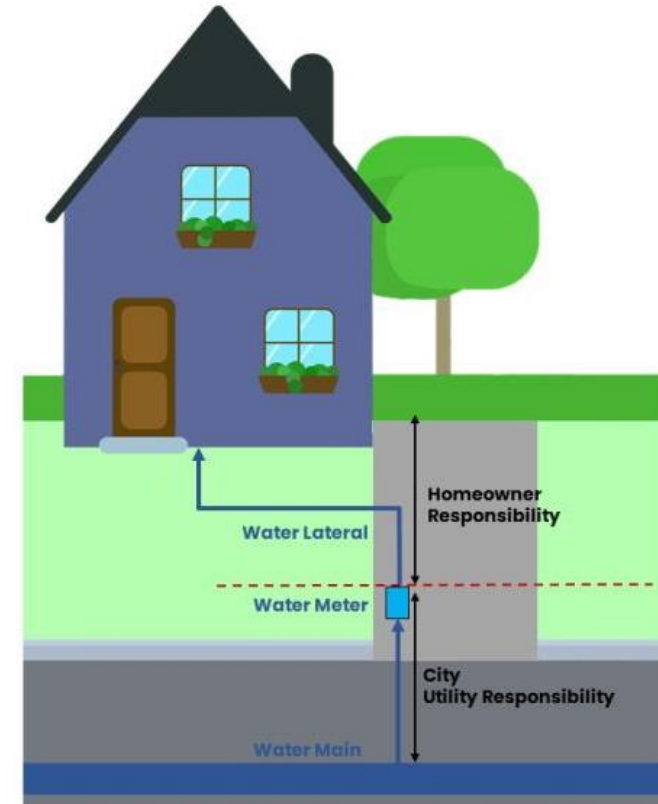
<https://www.youtube.com/watch?v=5osCKFzSbxI>

Upgrade Your Appliances

APPLIANCE	OLDER MODELS	EFFICIENT MODELS	SAVINGS
Clothes Washer	27-40 gallons/load	13 gallons/load	14-27 gallons /load
Dishwashers	10-15 gallons/cycle	5 gallons/cycle	5-10 gallons/cycle
Bathroom Faucet	3 gallons/minute	1.2 gallons/minute	1.8 gallons/minute
Showerhead	3 gallons/minute	1.8 gallons/minute	1.2 gallons/minute
Toilets	1.6-5 gallons/flush	1.28 gallons/flush	0.32-3.72 gallons/flush

Water pooling in or spilling out of the meter box?

- Request a water consumption check
 - Contact Public Works Utilities and Operations before taking further action
 - A meter investigation will be conducted
- PWUO staff only check the meter and city infrastructure
 - Any leaks on the customer side of the meter are the customer's responsibility
- Contact PWUO:
PWWeb@cityofdavis.org or 757-5686



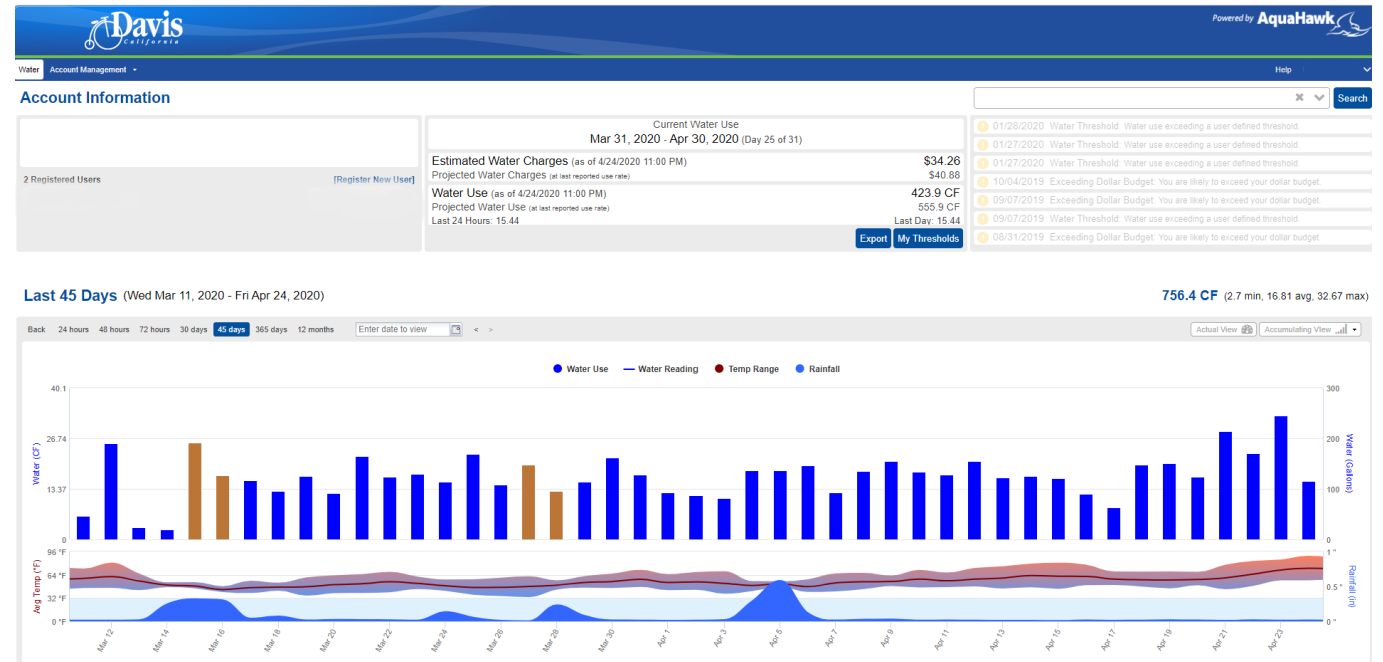
* The image above is a simplified illustration to demonstrate the location of the water meter box and water lines for a property, the actual location of the water meter box and water lines is different for each property. The water meter box is usually found near the sidewalk in the yard or driveway.

Using AquaHawk to Assist in Finding Leaks



What is AquaHawk?

- City of Davis' customer water use portal
- Allows customers to:
 - View hourly water consumption
 - Manage Water Usage
 - Customize Alert Settings
- November 2021 → 6,625 customers registered



Register for AquaHawk

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- Account holder on record
 - Can provide access to others
 - Monitor usage remotely
 - Multiple people can have separate registrations on same account

- Find registration information at www.SaveDavisWater.org



Setting Usage Alerts

- One of the primary benefits of AquaHawk
- Usage alerts are called “My Thresholds”
- Many options for alert settings
- Alert for continuous water usage over a 24-hour time period or less
- Time lag of approximately 12 hours

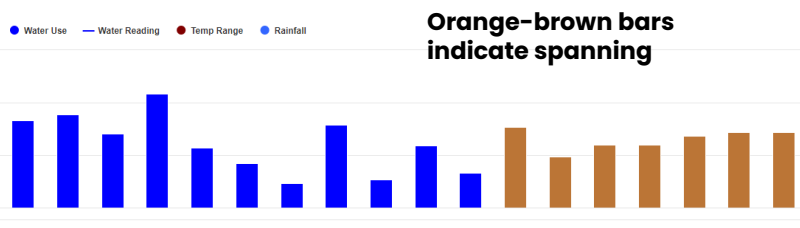
The screenshot shows a web interface titled "My Thresholds". It includes fields for "Account #" and "Meter #". Under "Billing Period Thresholds (Account)", there are two sections: "Estimated Bill Alert Threshold" and "Water Use Alert Threshold". Each has radio buttons for "Current" (checked) and "Projected", and input fields for "Bill Amount (dollars)" and "Water Use (gallons)". Below is a list of "Available Meters" with two entries: "01362036 • Water-Inactive" and "17130922 • Water-Municipal-Active". The "Water Use Thresholds (Meter)" section has input fields for "1 Hour", "1 Day", "1 Week", and "1 Month". At the bottom, there is a row with "Water Use (gallons)", "gallons per hour for", and a dropdown menu set to "24 Hours". A blue circle highlights this row, and an arrow points from the text "Continuous use alert" below to it. "Apply" and "Cancel" buttons are at the bottom.

Continuous use alert

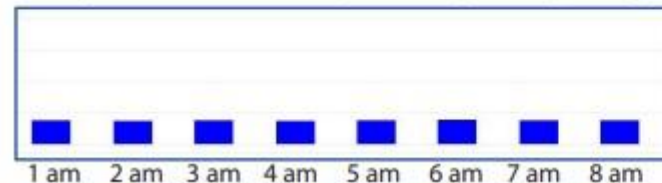
Looking for Continuous Water Use

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- Look for signs of continuous water usage throughout the night
 - Single-family residential properties - typically some hours of zero water usage
- Bright blue bars = actual water usage
- Orange-brown bars = time periods of “spanning”
 - Spanning = when a meter read or multiple meter reads cannot be transmitted
 - Hours with spanning may not indicate a leak



Example of Continuous Hourly Water Usage During the Night



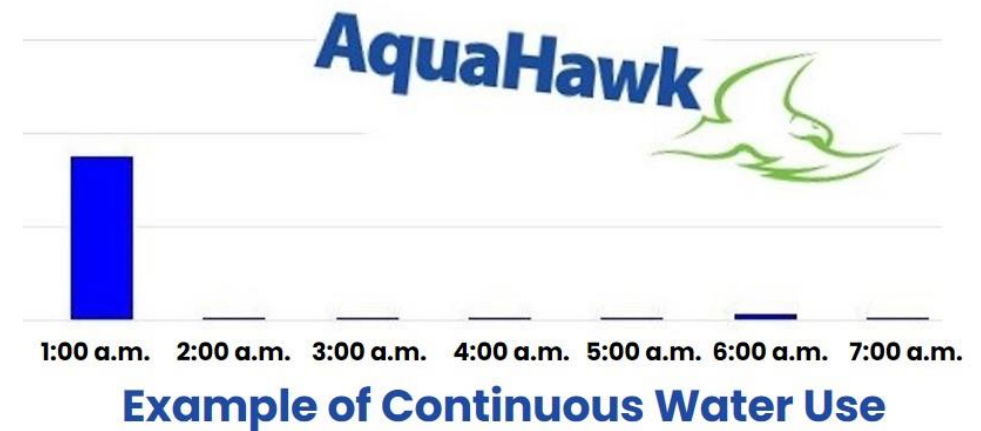
Example of Hours of Zero Water Usage During the Night



Checking for Leaks

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- Continuous water use in AquaHawk → check for leaks indoors and outdoors
- AquaHawk can be used as a tool to look for leaks
- Try the following one at a time - check AquaHawk 24 hours later to see if water use dropped:
 - Turn off irrigation at the timer and valve(s)
 - Turn off pool/spa supply line(s)
 - Turn off other fixtures and appliances - toilets, water softeners, etc.
- After repairs are made, check AquaHawk



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LEAK DETECTION

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According to the U.S. EPA, the average household's leaks can account for more than 10,000 gallons of water wasted every year, or the amount of water needed to wash 270 loads of laundry. If you feel your water use is high, use the online customer water use portal, AquaHawk, to [compare your current water use to your past usage](#) and check for common leaks. Common types of leaks found in the home include worn toilet flappers, dripping faucets, and other leaking valves. Some leaks you can easily fix yourself.

Water Usage and Water Leaks

Water customers are often surprised by the amount of water typical leaks can waste over time. A leaky faucet that drips at the rate of one drip per second can waste more than 3,000 gallons per year. An irrigation system that has a leak 0.031 inches in diameter (about the thickness of the tip of a ballpoint pen) can waste about 6,300 gallons of water per month. One of the most common leaks reported to the city are toilet leaks. The volume for toilet leaks can vary greatly depending upon the type of leak. Many toilet leaks are even silent, especially if they are toilet flapper leaks. AquaHawk can be used to assist in finding leaks in the home and around the property.

[Water Usage and Water Leaks PDF](#)

Public Works Utilities and Operations
530-757-5686 SaveWater@CityofDavis.org

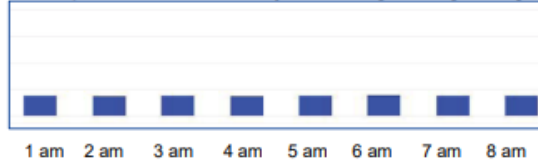
Using AquaHawk to Assist in Finding Leaks

AquaHawk is an online customer water use portal included with your City of Davis water service. You can use AquaHawk to monitor your hourly water usage and set and receive usage alerts. If you are not already registered for AquaHawk, visit [SaveDavisWater.org](#) for registration information.

Step 1: Check for Continuous Water Use

Look for signs of continuous water usage throughout the night. You typically will have some hours of zero water usage, especially during the night. Look for the bright blue bars (as shown below) for actual water usage.

Example of Continuous Hourly Water Usage During the Night



*If you notice orange-brown bars on your usage graph you are likely seeing time periods where multiple meter reads are not transmitted. When this occurs, AquaHawk averages the meter reads. Spanning during nighttime hours does not necessarily indicate a leak.

Fix a Leak Week



Leaks Can Run, but They Can't Hide

Are you ready to chase down leaks? Household leaks can waste nearly 1 trillion gallons of water annually nationwide, so each year we hunt down the drips during Fix a Leak Week. Mark your calendars for EPA's annual Fix a Leak Week, March 14 through 20, 2022—but remember that you can find and fix leaks inside and outside your home to save valuable water and money all year long.

From family fun runs to leak detection contests to WaterSense demonstrations, Fix a Leak Week events happen from coast to coast and are all geared to teach you how to find and fix household leaks. See our [Event map](#) at the bottom of this page (or on [Facebook](#) [EXIT](#)) to find events near you and view past events!

Learn how to find and fix leaks during Fix a Leak Week. It's as easy as 1-2-3.

www.SaveDavisWater.org