



# Let's Conserve More Water in Pasco County!

Pasco County Utilities is committed to providing our community, customers and future generations with high quality, efficient and innovative water, wastewater and reclaimed water services.





## Water Conservation Special Dates 2023-2024

### October 2023

Shower Better Month

### December 2023

Water Poster Contest Launch

### February 2024

Sprinkler Spruce Up  
Water Wise Award Nominations

### March 2024

Fix A Leak Week

### April 2024

Water Conservation Month

### May 2024

Water Reuse Week  
Drinking Water Week

### June 2024

Water Quality Report Publishes

# Play, live and work



## Thirsty for knowledge

Did you know that less than 1 percent of all the water on Earth can be used for drinking water. The rest is saltwater or is permanently frozen and we can't drink it, wash with it, or use it to water plants. As our population grows, more and more people are using up this limited resource. That's why it is important that we use our water wisely and not waste it.

A watershed is an area of land that water flows across as it moves toward a common body of water, such as a stream, river, lake or coast. A watershed is where you live, play and work. Here are ways to impact your watershed positively:

- ~ Make water conservation a habit.
- ~ Use Florida-Friendly Landscaping™ to reduce water, fertilizer and pesticide use.
- ~ Choose a lawn care service that uses environmentally friendly products and practices.
- ~ Dispose of motor oil properly.
- ~ Inspect your septic tank regularly.





# Water cycle

The water cycle, also called the hydrologic cycle, describes the continuous movement of water above, on, and below the surface of the Earth.

Source: Southwest Florida Water Management District

## Condensation:

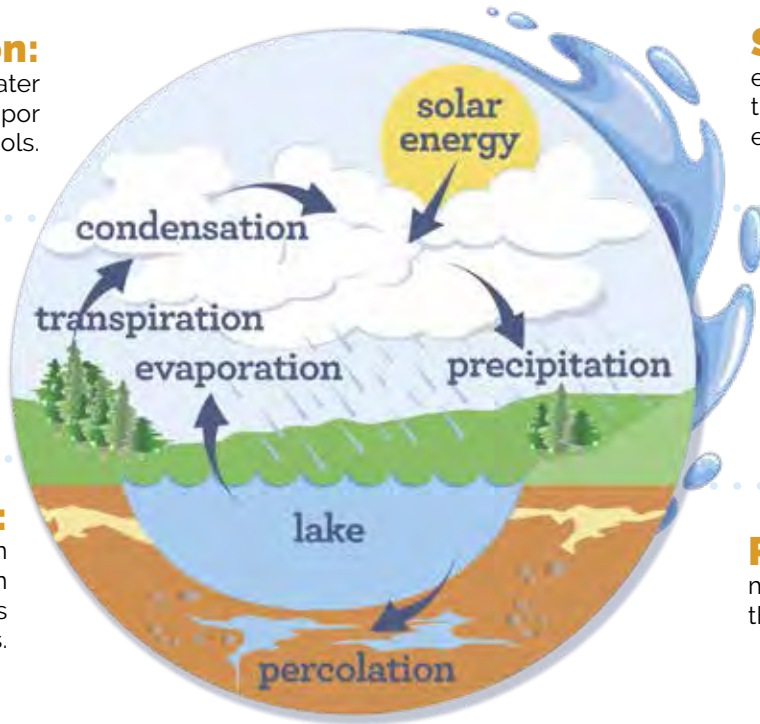
tiny droplets of water formed when water vapor rises into the air and cools.

## Transpiration:

vapor created when plants and trees give off moisture.

## Evaporation:

vapor created when the sun heats water in lakes, streams, rivers or oceans.



## Solar Energy:

energy provided by the sun for the never-ending water cycle.

## Precipitation:

moisture released when clouds become heavy and form rain, snow and hail.

## Percolation:

movement of water through the ground.

## GOING BEYOND THE TEXT:

### Everything is connected

Everything in the natural world is connected. Safe drinking water may start with a raindrop, but its journey to the tap is extensive. As inhabitants of Earth, it is our job to not only realize that, but also to try to protect the parts, which contribute to the whole. An ecosystem is a biological community of interacting organisms and their physical environment.

In other words, an ecosystem is a community of living and nonliving things that work together. Think about all of the different parts of the water ecosystem and how they interact. Look for articles and photos in the Tampa Bay Times about your community. Make a list of all the parts of your ecosystem. Choose some of the most important parts and create a cartoon depicting your personal ecosystem. **Standards:** SC.25.E.7.2; SC.25.E.6.3; SC.25.N.1.1; ELA.25.C.1.3; ELA.25.C.1.4; ELA.25.C.2.1; ELA.25.C.3.1; ELA.25.C.4.1; ELA.25.R.2.2; ELA.25.R.2.3; ELA.25.R.2.4; ELA.25.V.1.1; ELA.25.V.1.3; ELA.25.F.2.1; ELA.25.F.2.2; ELA.25.F.2.3; ELA.25.F.2.4



## THINK ABOUT IT: Water facts

~ In one year, the average American residence uses more than 100,000 gallons (indoors and outside)

Source: United States Department of Agriculture

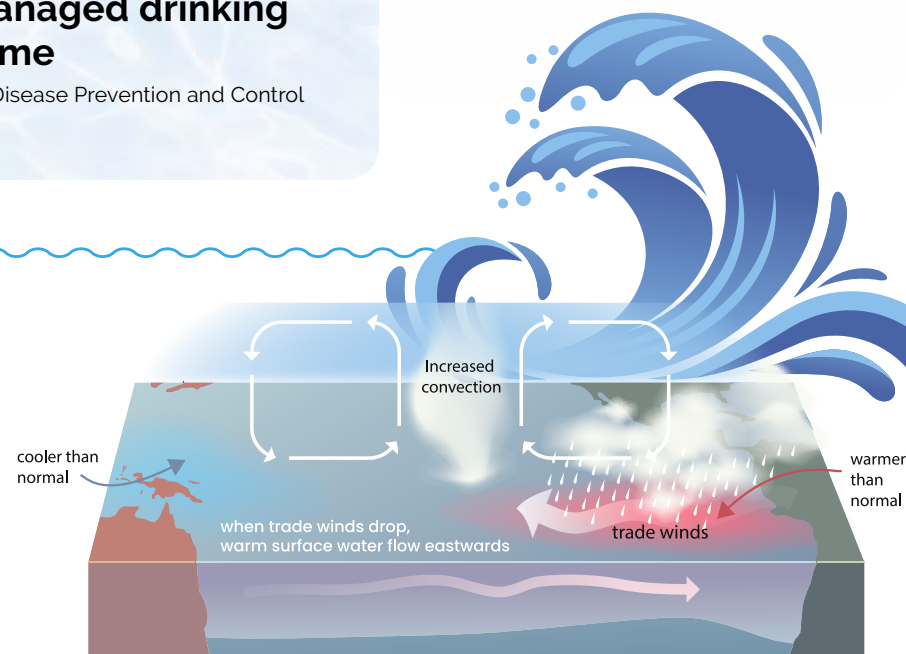
~ 2 billion people lack access to safely managed drinking water at home

Source: Centers for Disease Prevention and Control

## El Niño

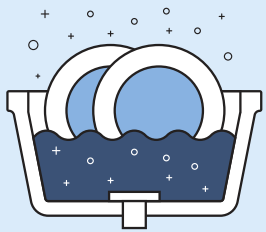
In the central and eastern Pacific, there is a lot of year-to-year variability of precipitation. Some years are much warmer and wetter (El Niño), and some years are much cooler and drier (La Niña). The expected El Niño has emerged this year, according to scientists at National Oceanic and Atmospheric Administration's Climate Prediction Center. El Niño is a natural phenomenon marked by warmer-than-average sea surface temperatures in the central and eastern Pacific Ocean near the equator. El Niño's impacts on the climate reach far beyond the Pacific Ocean. "Depending on its strength, El Niño can cause a range of impacts, such as increasing the risk of heavy rainfall and droughts in certain locations around the world," said Michelle L'Heureux, climate scientist at the Climate Prediction Center.

Source: National Oceanic and Atmospheric Administration

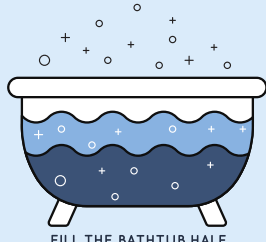


# Water conservation

Water conservation is the prevention of wasteful use of water. Want to conserve water? Not sure where to start? Start by estimating how much water you and your family use now. Knowing how much water you use now and how you use it can help you decide where you can start using less.



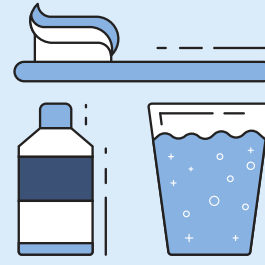
USE FILLED SINK



FILL THE BATHTUB HALF



TO REDUCE THE TIME TAKING A SHOWER



USE A GLASS OF WATER WHEN BRUSHING YOUR TEETH



REPAIR LEAKS IN THE WATER SYSTEM



## ESTIMATED USE

Activity	Water Used	Number of Times	Gallons Used
Dishwasher	5 gallons per load		
Toilet Flushing	2 gallons per flush		
Bathing	20 gallons (full tub)		
Laundry	23 gallons per load		

## CALCULATED USE

Activity	Water Used	Total Minutes	Gallons Used
Garbage Disposal	2 gallons per minute		
Brushing Teeth	2 gallons per minute		
Washing Hands	2 gallons per minute		
Washing Dishes by Hand	2 gallons per minute		
Shower	2 gallons per minute		
Yard Watering with Hose	7 gallons per minute		

Source: Southwest Florida Water Management District

## At home daily water use

With a parent and/or teacher, complete this survey, created by the Southwest Florida Water Management District, to estimate how much water is used in your home daily.

**Estimated Use:** Write the number of times you and your family members do each activity in one day. Then multiply the number for Water Used by the Number of Times the activity is done. This will give you the number for the Gallons Used column.

**Calculated Use:** Record the number of total minutes used for each activity. Then multiply the number for Water Used by the number of Total Minutes to find the number for the Gallons Used column. For an activity you didn't do, place a 0 under Gallons Used. Add all the numbers under Gallons Used to find the Total Gallons Used.





GOING BEYOND THE TEXT:

### How to help

Look in the Tampa Bay Times for articles about conservation and how you can help make your community environmentally sound. Using ads in the newspaper as models, create an ad to promote a conservation initiative. Look at the ads in the newspaper. Think about the dynamics of the ads (images, words, placement of items, colors). Think about ways to draw people's attention to your ad and message. Next, design an ad for the print edition of the newspaper and for the website. How is the ad on the print edition going to be different than the Web version of the ad? Write a fully developed paragraph showing the differences in the ads and what your main point of the ads is. Share your ad and the information in your paragraph with your class.

**Standards:** ELA.25.C.1.3; ELA.25.C.1.4; ELA.25.C.2.1; ELA.25.C.3.1; ELA.25.C.4.1; ELA.25.R.2.2; ELA.25.R.2.3; ELA.25.R.2.4; ELA.25.V.1.1; ELA.25.V.1.3; ELA.25.F.2.1; ELA.25.F.2.2; ELA.25.F.2.3; ELA.25.F.2.4

## Indoor water-saving tips

- ~ **Toilet flushing** – Avoid using your toilet as a wastebasket.
- ~ **Bathing** – Take only shallow baths.
- ~ **Washing dishes by hand** – When washing dishes by hand, avoid letting the water run continuously in the rinsing sink.
- ~ **Laundry** – Run only full loads in the washing machine.
- ~ **Shower** – Limit the time water runs while you're taking a shower. Install a low-flow showerhead.
- ~ **Washing hands** – Don't let the water run while you are washing your hands.
- ~ **Brushing teeth** – Turn off the water while brushing your teeth.
- ~ **Check for leaks** – Check periodically for leaks, they can be silent and unseen.

Source: Southwest Florida Water Management District

## Outdoor water saving tips

- ~ **Yard watering** – Water only on your watering day and only when 30 percent of the lawn shows signs of wilt:  
Water slowly to reduce runoff and to allow deep penetration.
- ~ **Collect rainwater** – Use a rain barrel to collect rainwater.
- ~ **Use a broom** – not the water hose – to clean leaves and other debris from sidewalks, driveways and other areas.
- ~ **Use a shutoff nozzle on the water hose.** When finished, turn it off at the spigot instead of at the nozzle to avoid leaks.
- ~ **Avoid recreational water toys** that require a constant stream of water.
- ~ **Use a commercial car wash that recycles water.** If you wash your own car, park on the grass, use a bucket of soapy water and use a hose with a shutoff nozzle.
- ~ **Cover your spa or pool** to reduce evaporation.

Source: Southwest Florida Water Management District



## THINK ABOUT IT: Water facts

- ~ **Americans drink more than 1 billion glasses of tap water per day.**  
Source: United States Environmental Agency
- ~ **Americans use 5.7 billion gallons per day flushing toilets.**  
Source: College of Staten Island Sustainability
- ~ **A water-efficient dishwasher uses as little as 3 gallons per cycle but hand-washing dishes uses 27 gallons of water.**  
Source: National Resources Defense Council

**DID YOU KNOW?** Pasco County Utilities offers free water audits for businesses within its service area. Find out more online at [bit.ly/PascoRebates](http://bit.ly/PascoRebates).



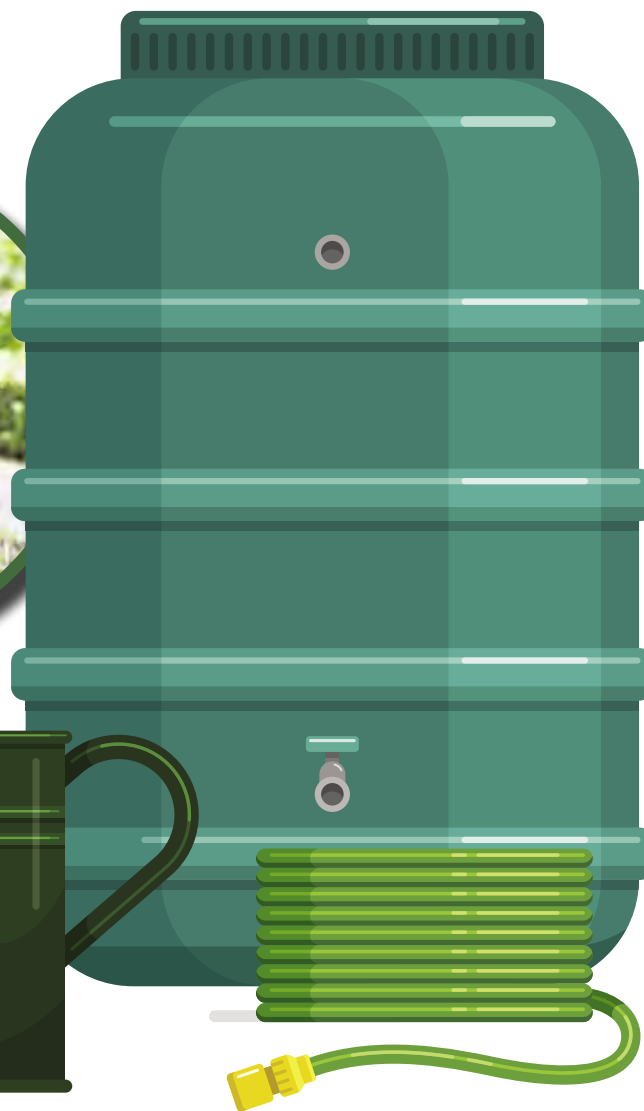


# Water by the barrel

Rain barrels capture water from a roof and hold it for later use such as on lawns, gardens or indoor plants. Collecting roof runoff in rain barrels reduces the amount of water that flows from your property. It's a great way to conserve water.

The University of Florida/Institute of Food and Agricultural Services (UF/IFAS) periodically offers rain barrel workshops to highlight the benefits of rainwater harvesting. The workshop explores the benefits of rainwater harvesting and offers tips and tricks for installing a functional rain barrel. The workshops are open to Pasco County residents, and the fee includes a rain barrel complete with mesh and spigot ready for installation.

Each barrel is approximately 55 gallons. Approximate fee is \$60. Find a variety of upcoming events offered by Pasco County Cooperative Extension online at <https://www.eventbrite.com/d/fl--tampa/pasco-county-extension-office/>



## Benefits of rain barrels

- Supplement irrigation and save water.
- Reduce stormwater runoff which can lead to reduced levels of pesticides and fertilizers in our water.
- Help reduce the amount of water that may settle around the foundation of your home.

## Uses for collected water

- Connect to a soaker hose (with the pressure-reducing washer removed).
- Fill a watering can and hand-water plants, flower beds and gardens.
- Keep your compost bin moist.
- Rinse off gardening tools.



## THINK ABOUT IT: Water facts

- ~ About 6,800 gallons of water is required to grow a day's food for a family of four.
- ~ One-third of what the world spends on bottled water in one year could pay for projects providing water to everyone in need.

Source: Seametrics

## GOING BEYOND THE TEXT: Moving water

The world's water moves between lakes, rivers, oceans, the atmosphere and the land in an ongoing cycle called the water cycle. The water cycle describes how water evaporates from the surface of the Earth, rises into the atmosphere, cools and condenses into clouds and falls again to the surface as precipitation. Visit <https://gpm.nasa.gov/education/videos/water-cycle-animation> to watch an animation of Earth's water cycle. Next, create an artistic depiction showing the water cycle. **Standards:** SC.25.N.1.1; SC.25.N.1.2; SC.25.N.1.3; SC.25.N.1.4; SC.25.N.3.1; SC.25.E.6.6; SC.25.P.9.1; SC.5.E.7.1; SC.912.L.17.10; ELA.25.C.1.3; ELA.25.C.1.4; ELA.25.C.2.1; ELA.25.C.3.1; ELA.25.C.4.1; ELA.25.R.2.2; ELA.25.R.2.3; ELA.25.R.2.4; ELA.25.V.1.1; ELA.25.V.1.3; ELA.25.F.2.1; ELA.25.F.2.2; ELA.25.F.2.3; ELA.25.F.2.4

# Water Posters

The Water Poster Contest program, at its heart, began as a drawing contest. However, since 2010, the program has become much more – in large part, due to the community engagement, education and outreach features. The program draws interest from nearly half of Pasco County's public elementary schools.

In 2016, the program set another record for the total value of prizes donated by the community. Over the years, the contest has been featured in local news sources, received praise from the Board of County Commissioners for Pasco County, and has even won recognition from the American Water Works Association as a "Best in Class" and "Show of Excellence" program for its emphasis on outreach and education.

Since the program is developed with guidance from the District School Board of Pasco County, the program



**Ellianna Tidwell**

Schrader Elementary  
Kindergarten



**1ST PLACE**



**Aadrika Subudhi**

Countryside Montessori Charter School  
Second Grade



**1ST PLACE**



**Andy Friedman**

Countryside Montessori Charter School  
Third Grade



**1ST PLACE**



# Water Contest

is mindful of curriculum standards, integrates science, technology, engineering, art and math (STEAM) components and can be implemented by both art and science elementary teachers. The contest also features opportunities for presentations from Florida Governmental Utilities Authority (FGUA) and/or Pasco County Utilities staff, so that students, teachers and staff can learn more about water. Each year, the theme changes so that teachers can look forward to teaching about water in new and exciting ways.

For more information about the contest, go to [watercontest.org/about-us](http://watercontest.org/about-us). Readers can check this website in mid-December for information about the 2024 Water Poster Contest. Additional information about the contest also is available at this site.



**1ST PLACE**

**Harlow Long**

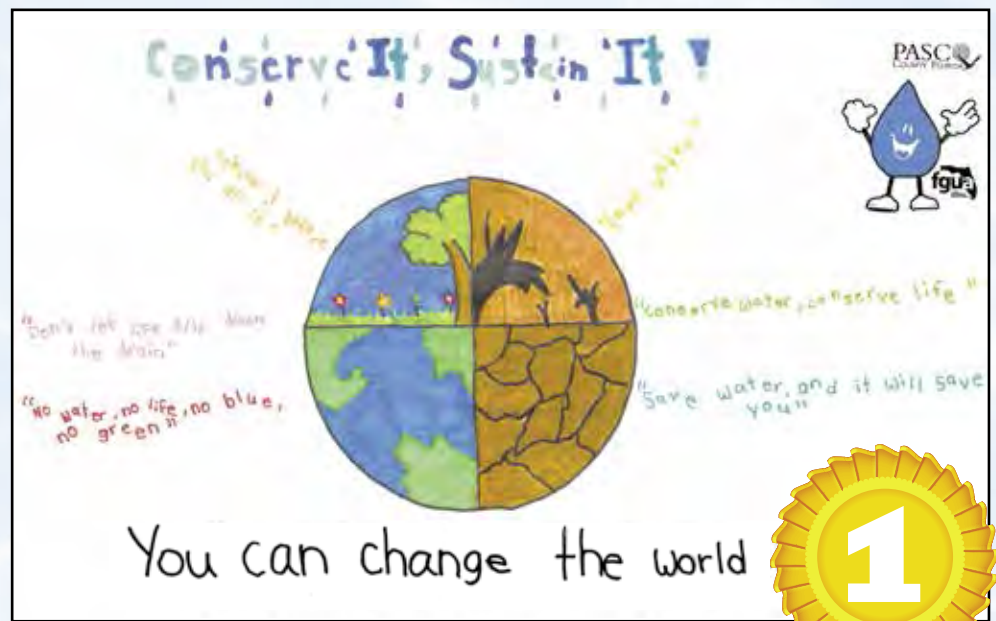
Odessa Elementary  
First Grade



**1ST PLACE**

**Penelope McClune**

Seven Springs Elementary  
Fourth Grade



**1ST PLACE**

**Dwarakamaye Bolla**

Wesley Chapel Elementary  
Fifth Grade

# Leaky toilets

Toilets are by far the main source of water use in the home, accounting for nearly 30 percent of an average home's indoor water consumption.

A leaky flapper can fill an average size swimming pool four times in less than a year. The average leaky toilet can waste about 200 gallons of water per day. That's more than 6,000 gallons a month for just one leaking toilet!

Many toilets have slow, silent leaks. As the tank's water level drops, the toilet will briefly run to replace lost water. This may be very quick, quiet, or even silent.

## How to check for toilet leaks with a dye-test:

1. Add food coloring (6-7 drops), or a dye tablet, to the tank.
2. Wait 30 minutes, then check the bowl.
3. Color will appear in the toilet bowl if the toilet flapper is leaking,
4. Flush as soon as the test is complete, since food coloring may stain the tank.



# Leaks = water waste

What's the big deal with drips? Small leaks can add to big water waste.

Your home's water meter is a device that measures how much water flows into your house. Water meters are usually located outside, either under a metal cover on the sidewalk or in a box outside the house.



One way to discover if your home has leaks is to check your water meter before and after a two-hour period when no water is being used.

Here's how: Check the meter and write down the numbers on the meter's register from left to right. Then be careful not to flush the toilet, run the faucet, or use any water for at least two hours. At the end of two hours, check the water meter again. If the meter does not read exactly the same, you probably have a leak.

If a leak is indicated, the next bit of detective work is to track it down and fix it. Inside your house, start with the toilet using the information included on this page. If the toilet is not the leak source, here are some other places to look:

- Look under sinks and behind refrigerators and clothes washers for wet spots.
- Check outdoor spigots and hoses to make sure they are completely turned off.
- If you have a water softener, make sure it is not continually operating.
- If you have a pool, ask if it has needed to be topped off more often than in the past.

## Be a leak detective

Checking for leaks should include ruling out any other reasons for high usage. Did any of the following occur during your billing period:

- Pressure-washing
- Water hose use
- Holiday house guests
- New sod
- Pool cleaning or refilling

Remember, any appliance that is connected to water could potentially leak.



# Sprinkler system

Even when working properly, sprinklers can use more than 1,000 gallons per hour they run. Even when used efficiently, sprinklers typically will account for more than half of the typical Floridian's use. Broken heads and pipe leaks can certainly cause that usage to increase. Be sure to test-run the system at least once per season to check for leaks and misdirected sprays.

## Landscape and Irrigation

Did you know, outdoor water use can account for more than half of residential water use? Much of that water can be lost through irrigation system inefficiencies and controller management issues. Save water, and potentially money, with routine irrigation maintenance and efficient irrigation settings.

The best way to catch maintenance problems quickly is to operate and observe the irrigation system at least

quarterly (every three months). Run the zones one at a time and visually inspect each sprinkler head looking for these common problems:

- ~ **Missing or Leaking Heads**
- ~ **System Leaks**
- ~ **Overspray or Misdirected Heads**
- ~ **Obstructed Heads**
- ~ **Rain Device Missing or Not Working**

### GOING BEYOND THE TEXT:

#### Do the math

The average person uses 16 gallons of water per shower. If the average number of students in your class live in a household with three other people, what is the total number of people represented by your class. How many gallons of water does each household from your class use each day? What is the total amount of water used for showering for each household in a month? What is the total water used from showering by all of the households? Explain how you arrived at this answer.

**Standards:** ELA.25.C.1.3; ELA.25.C.1.4; ELA.25.C.2.1; ELA.25.C.3.1; ELA.25.C.4.1; ELA.25.R.2.2; ELA.25.R.2.3; ELA.25.R.2.4; ELA.25.V.1.1; ELA.25.V.1.3; ELA.25.F.2.1; ELA.25.F.2.2; ELA.25.F.2.3; ELA.25.F.2.4; MA.25.MTR.1.1; MA.25.MTR.2.1; MA.25.MTR.3.1; MA.25.MTR.5.1; MA.25.MTR.7.1; MA.25.AR.1.1

### GOING BEYOND THE TEXT:

#### Cause and effect

Waste can result in a shortage of natural resources, including water. Wasting resources is increasing at an alarming rate in the world and in our neighborhoods. Waste can be the result of carelessness or convenience. Look for an article in the Tampa Bay Times that focuses on waste. Discuss the article with your class. Write down the main points presented in the article. Discuss the ways you can offset this problem. As a class, write down the steps you can take to offset the problem. Then break into small groups and create a poster outlining those steps to share with others.

**Standards:** ELA.25.C.1.3; ELA.25.C.1.4; ELA.25.C.2.1; ELA.25.C.3.1; ELA.25.C.4.1; ELA.25.R.2.2; ELA.25.R.2.3; ELA.25.R.2.4; ELA.25.V.1.1; ELA.25.V.1.3; ELA.25.F.2.1; ELA.25.F.2.2; ELA.25.F.2.3; ELA.25.F.2.4

# Reclaimed water for irrigation

Pasco County Utilities Operations & Maintenance Department treats wastewater to public access standards, stores more than 700 million gallons at two reservoirs and 10 above-ground storage tanks and delivers approximately 25.1 million gallons per day of high quality, reclaimed water to approximately 80,000 residents and a variety of other customers.

## Benefits of using reclaimed water

Reclaimed water offers a unique outlook into the future of water conservation. As the population in Pasco County grows, reclaimed water replaces drinking water for irrigation, which helps to keep up with the demand of potable water. Other benefits of reclaimed water include:

- Reducing discharges of nutrients such as nitrogen and phosphorus into surface waters.
- Groundwater Recharge.
- Postponing costly capital investments in the development of new, more costly water sources and supplies.

## Let it rain

An inch of rain delivers about 6,300 of rainwater to a 10,000 square-foot lot. Having a rain sensor may help save water and money. A rain sensor is a device or switch that overrides the automatic irrigation system when rainfall occurs. The sensor temporarily shuts off a system if it is operating during a rain shower or is scheduled to run following rainfall.

## Sod vs. landscape

Irrigation systems should be zoned separately for turf and ornamental plants since water requirements differ for the two. This allows for the proper amount of water to be distributed to the plants.

## Water recycling

Water recycling is a form of alternative water supply that captures, treats and reuses wastewater.

Wastewater is what we call water after it has been used by humans. In many cases, wastewater is the water that goes down the drain or toilet after it has been used and is piped to a wastewater treatment plant.

The main benefit of using reclaimed water is that its use replaces the use of potable drinking water. Using reclaimed water for non-drinking purposes extends our freshwater supply. Reclaimed water also reduces the cost of landscape irrigation compared to using potable water, which is generally priced higher to consumers.

Irrigation with reclaimed water in Pasco County is limited to twice weekly, with days assigned by address. Regardless of water source, no irrigation is permitted in Pasco County between 8 a.m. and 6 p.m., and, as with all water uses, irrigation should occur only when needed.

## 4G Ranch

Pasco County Utilities' most notable reuse project has been the creation of the 4G Ranch wetland recharge system. The 176-acre 4G Ranch project is made up of 15 wetland infiltration cells that provide aquifer recharge, add wet-weather reuse capacity, and restores wetlands and lakes. Pasco County Utilities is committed to operating and maintaining the facility efficiently so that groundwater recharge, improving deteriorated aquatic features, and restoration of endemic ecosystems may occur for the life of the project.

## Water restrictions using reclaimed water

If your house number ends with	You may water on
0 or 1	Tuesday and Friday
2 or 3	Thursday and Sunday
4 or 5	Monday and Friday
6 or 7	Tuesday and Saturday
8 or 9	Wednesday and Sunday
Mixed or no address	Wednesday and Sunday

## Water restrictions using potable, well or surface water

If your house number ends with	You may water on
0 or 1	Monday
2 or 3	Tuesday
4 or 5	Wednesday
6 or 7	Thursday
8 or 9	Friday
Mixed or no address	Friday



# Florida-friendly landscaping principles



Above left. Bee attracted to blanketflowers, Jim Damaske, Tampa Bay Times

Above right. Monarch caterpillar, Luis Santana, Tampa Bay Times



## THINK ABOUT IT: Water facts

- ~ A person can live about a month without food, but only about a week without water.
- ~ Nearly one-half of the water used by Americans is used for thermoelectric power generation.
- ~ Water can dissolve more substances than any other liquid including sulfuric acid.

Source: Environmental Protection Agency

## Right plant, right place:

Plants selected to suit a specific site will require minimal amounts of water, fertilizers, pesticides and maintenance.

## Water efficiently:

Irrigate only when your lawn and landscape need water. Overwatering can waste water, cause pollution and make plants more prone to disease and pests.

## Fertilize appropriately:

Less is often best. Overuse of fertilizers can be hazardous to your landscape and the environment.

## Mulch:

Maintaining a 2-to-3 inch layer of mulch will help retain soil moisture, prevent erosion and suppress weeds.

## Attract wildlife:

Plants in your landscape that provide food, water and shelter will attract Florida's diverse wildlife.

## Manage yard pests responsibly:

Unwise use of pesticides can harm people, pets, beneficial organisms and the environment.

## Recycle:

Grass clippings, leaves and yard trimmings recycled on-site provide nutrients to the soil and reduce waste disposal.

## Reduce stormwater runoff:

Water running off your landscape can carry pollutants such as soil, debris, fertilizer, gasoline and pesticides that can negatively affect water quality and the environment.

## Protect the waterfront:

Waterfront property, whether on a river, stream, pond, bay or beach, is very fragile and should be carefully protected to preserve Florida's waterways, plants and wildlife. Find out more about Florida-friendly landscaping at [fl.ifas.ufl.edu](http://fl.ifas.ufl.edu).

Source: Southwest Florida Water Management District

## GOING BEYOND THE TEXT: Working together

We all need to work together to protect our environment. Conserving water, recycling, and protecting our wildlife are important for the future of Earth. Look for articles in the Tampa Bay Times that show or focus on examples of people, groups or organizations that are working to protect the environment. Make a list of those involved and the actions they are taking. Select one of the environmental groups or issues you have read about and do some research about it. Then think about what actions you can take to protect the environment. Share your ideas and what you have learned by writing a blog post or short essay that incorporates the information you have learned. **Florida Standards:** SC.25.E.6.6; SC.25.E.7.2; SC.25.E.7.1; SC.25.P.8.2; ELA.25.C.1.3; ELA.25.C.1.4; ELA.25.C.2.1; ELA.25.C.3.1; ELA.25.C.4.1; ELA.25.R.2.2; ELA.25.R.2.3; ELA.25.R.2.4; ELA.25.V.1.1; ELA.25.V.1.3; ELA.25.F.2.1; ELA.25.F.2.2; ELA.25.F.2.3; ELA.25.F.2.4

# HYDRANTS

Did you know Pasco County Utilities owns and maintains 8,000 hydrants across the county? The hydrants are part of the utility's water distribution system of about 1,800 miles of underground water mains, all connected to the water treatment plants. Hydrants have the following anatomy:

## Bonnet

The conical cap for the hydrant, or bonnet, holds the operating stem nut in place and protects the hydrant from mechanical damage and water penetration.

## Stem Nut

The stem nut is the key to operating the valve within the hydrant. Typically shaped as a pentagon, the stem nut will turn the operating stem of the hydrant and raise the valve to an 'open' position when turned with a hydrant wrench.

## Branch

A branch pipe that connects the hydrant to a Pasco County Utilities main is one restriction for the overall capacity of a hydrant.

## Outlets

A traditional dry barrel fire hydrant, the type used by Pasco County Utilities, contains three outlets: two 2½-inch side outlets and a single larger "pumper" outlet.

## Thrust Block

Unless mechanically restrained, thrust blocks serve as a way to distribute the hydraulic force of the pipe network into the soil.

## Valve

When in the 'open' position, the valve at the bottom of the hydrant rises to plug drain holes and simultaneously permit water to fill the barrel of the hydrant. When in the "closed" position, the valve lowers to block water passage and re-open drain holes at the bottom of the hydrant.

## Flange

The flange at the base of the hydrant is the point of connection for the hydrant to the rest of the barrel.







## GOING BEYOND THE TEXT:

### Stop the leaking

A dripping faucet can waste a lot of water over time. In this experiment, you will determine how much water can be wasted when someone forgets to shut off a faucet completely. During the experiment, be sure to reuse the water for a tree or plant so YOU are not guilty of being a water waster!

#### Materials:

- Bucket
- measuring cup
- pen/pencil
- faucet
- sheet of paper to record data results

#### Directions:

1. Place a bucket under the faucet.
2. Turn the faucet so it has a very slow drip.
3. Record the date and start time on the record sheet.
4. After 1 hour, use the measuring cup to determine the amount of water collected.
5. Record your data.
6. Reuse the water by giving a drink to a plant or tree.
7. Repeat the experiment for longer periods of time and record your data.
8. Discuss the results of the experiment.

#### Questions:

1. How much water dripped after 1 hour?
2. How much water dripped after 8 hours?
3. How much water dripped after 24 hours?
4. What would be the estimated amount of water wasted after 1 week?

### Conserving water

Look for an article or photograph related to water use and/or conservation in current issues of the Tampa Bay Times. How are people using the water? Are they drinking it, using it for industrial production or enjoying it for recreation? Is water being used conservatively or does the article or photograph suggest the water is being wasted? What can you and your family do to help conserve water? Using the Letters to the Editor in the Tampa Bay Times as models, write a letter to the editor about this issue. **Standards:** SC.25.E.6.6; ELA.25.C.1.3; ELA.25.C.1.4; ELA.25.C.2.1; ELA.25.C.3.1; ELA.25.C.4.1; ELA.25.R.2.2; ELA.25.R.2.3; ELA.25.R.2.4; ELA.25.V.1.1; ELA.25.V.1.3; ELA.25.F.2.1; ELA.25.F.2.2; ELA.25.F.2.3; ELA.25.F.2.4



## Color coding hydrants

Pasco County Utilities paints hydrant bonnets in its system different colors, based on the maximum flow rate for the hydrant. Knowing the flow rate helps firefighters when the hydrant is needed. Here are the colors in use:

Color	Class	Available flow @20 psi* residual
BLUE	AA	1500 gpm** or more
GREEN	A	1000-1499 gpm**
ORANGE	B	500-999 gpm**
RED	C	Below 500 gpm**

\*psi (pounds per square inch). \*\*gpg (gallons per minute).

## Zero tolerance

Pasco County has a "Zero-Tolerance Policy" for unauthorized hydrant use or other forms of water theft. Please report hydrant tampering, open hydrants, or other forms of water theft by using the online reporting form, calling the Utilities Code Enforcement Officer at 813-235-6012, ext. 1935, or by mail to the Pasco County Utilities Administration Building, attention: Utilities Code Enforcement, at 19420 Central Boulevard Land O' Lakes, FL 34637.



### THINK ABOUT IT: Water facts

- ~ Water weighs about **8 pounds a gallon**
- ~ A jellyfish and a cucumber are each **95% water**

Source: United States Department of Agriculture

# Pasco County Utilities Water System

Pasco County Utilities is committed to providing our community, customers and

future generations with high quality, efficient and innovative water, wastewater and reclaimed water.

Pasco County Utilities representatives are available to assist individuals and businesses with information about water conservation, water quality, account status and more.

For more information, call 813-238-6012 or email [SaveH2O@MyPasco.net](mailto:SaveH2O@MyPasco.net).

Safe and dependable drinking water is the No. 1 priority for Pasco County Utilities. Equally important is the reported data provided to customers each year showcasing the exceptional quality of Pasco County Utilities water and the consistent monitoring that takes place.

The latest water quality testing results, for each public water service area, are available online in an annual Consumer Confidence Report (CCR). CCRs are provided annually detailing water quality lab results from the year prior and the process in place to ensure safe, quality drinking water is delivered daily. CCRs specific to a residential area can be viewed at the direct link provided on each water bill in the notification section, under the water usage information.

To meet the priority of providing Pasco County Utilities customers with safe,



dependable drinking water, the Utility owns and operates a water system consisting of groundwater supply wells, potable water storage, and a distribution system that serves more than 140,000 connections in unincorporated Pasco County.

## Drinking Water

Four water treatment plants, four regional interconnections in partnership with Tampa Bay Water, more than 1,500 miles of water mains and more than 36 groundwater wells are in place to provide drinking water for Pasco County Utilities customers.

Pasco County Utilities' Operations & Maintenance Department also is responsible for ensuring the quality and integrity of the county's wastewater and reclaimed water services.

## Wastewater

Slightly more than 293,000 residents receive wastewater services from Pasco County Utilities. On average, just under 25,000 million gallons of wastewater is treated daily at eight plants. Organic matter from treated wastewater is cleaned and converted to fertilizer.

## Reclaimed Water

Pasco County Utilities stores about 700 million gallons of treated wastewater in 10 above-ground storage tanks and two reservoirs to provide reclaimed water for irrigation. Just over 25 million gallons of high-quality treated wastewater (reclaimed water) is delivered daily to about 72,000 customers across the county.

Source: Pasco County Operations and Maintenance



## WaterSense

Pasco County Utilities is an Environmental Protection Agency WaterSense Promotional Partner. Pasco County Utilities is invested in providing the community with up-to-date, accurate information about effective water conserving practices.

WaterSense, a voluntary partnership program sponsored by the U.S. Environmental Protection Agency (EPA), is both a label for water-efficient products and a resource for helping you save water.

The WaterSense label makes it simple to find water-efficient products, new homes, and programs that meet EPA's criteria for efficiency and performance. WaterSense-labeled products and services are certified to use at least 20 percent less water, save energy, and perform as well as or better than regular models.

Find out more about water-saving, WaterSense labeled products for the home, yard and business online at [epa.gov/watersense/watersense-products](http://epa.gov/watersense/watersense-products).

## About NIE

The Tampa Bay Times Newspaper in Education program (NIE) is a cooperative effort between schools and the Times Publishing Co. to encourage the use of newspapers in print and electronic form as educational resources — a “living textbook.”

Our educational resources fall into the category of informational text, a type of nonfiction text. The primary purpose of informational text is to convey information about the natural or social world. NIE serves educators, students and families by providing schools with class sets of the Pulitzer Prize-winning Tampa Bay Times plus award-winning original educational publications, teacher guides, lesson plans, educator workshops and many more resources — all at no cost to schools, teachers or families.

In 2022-2023, NIE provided more than 200,000 print copies and nearly 10 million e-Newspaper licenses to



Tampa Bay classrooms. For more information about NIE, visit [tampabay.com/nie](http://tampabay.com/nie), call 727-893-8138 or email [ordernie@tampabay.com](mailto:ordernie@tampabay.com). Follow us on X, formerly known as Twitter, at [twitter.com/TBTimesNIE](https://twitter.com/TBTimesNIE). Find us on Facebook at [facebook.com/TBTNIE](https://facebook.com/TBTNIE).

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## Florida Standards

This publication and its activities incorporate the following Florida Standards for elementary school students. **Language Arts:** ELA.25.EE.1.1; ELA.25.EE.2.1; ELA.25.EE.3.1; ELA.25.EE.4.1; ELA.25.EE.5.1; ELA.25.EE.6.1; ELA.25.C.1.1; ELA.25.C.1.2; ELA.25.C.1.3; ELA.25.C.1.5; ELA.25.C.2.1; ELA.25.C.3.1; ELA.25.C.4.1; ELA.25.F.1.3; ELA.25.F.1.4; ELA.25.R.2.1; ELA.25.R.2.2; ELA.25.R.2.3; ELA.25.R.2.4; ELA.25.V.1.1; ELA.25.V.1.2; ELA.25.V.1.3 **Math:** MA.25.MTR.1.1; MA.25.MTR.2.1; MA.25.MTR.3.1; MA.25.MTR.5.1; MA.25.MTR.7.1; MA.25.AR.1.1 **Science:** SC.25.CS-CC.1.3; SC.25.CS-CP.1.1; SC.25.CS-CP.1.2; SC.25.CS-CP.1.3; SC.25.CS-CP.1.4; SC.25.CS-CP.2.2; SC.25.CS-CP.2.1; SC.25.CS-CS.2.2; SC.25.CS-CS.2.3; SC.25.CS-CS.2.4; SC.25.CS-CS.2.5; SC.25.E.6.3; SC.25.E.7.1; SC.25.N.1.1; SC.25.N.1.2; SC.25.N.1.3; SC.25.N.1.4; SC.25.N.1.5