Join the Drive to conserve more water in Pasco County!

Tampa Bay Times NIE newspaper in education tampabay.com/nie

EPA WaterSense PARTNER

PASCO County Florida
Open Spaces. Vibrant Places.

ATTRACTIONS ALONG THE WATER CONSERVATION HIGHWAY 2024-2025

October 2024
- **Shower Better Month**
  Shorter Showers Save Water

December 2024
- **Water Poster Contest Launch**
  Get info at WaterContest.org

February 2025
- **Sprinkler Spruce Up**
  Efficient Irrigation Saves Water

March 2025
- **Fix A Leak Week**
  March 17-23

April 2025
- **Water Conservation Month**
  Reduce Use to Save Water
- **Running 4 Water**
  Date to Be Announced
- **Water Reuse Week**
  May 18-24

May 2025
- **Drinking Water Week**
  May 4-10
- **Water Wise Award Nominations**
  Open through June 30

June 2025
- **Water Quality Report Published**
  Find Online at PascoCountyUtilities.com

All dates/events subject to change. Visit PascoCountyUtilities.com for updated information.

Water conservation roadmap

1. If all water users in Pasco County Utilities service area saved 1 gallon of water a day, 10 million gallons would be saved each month.
2. About 500,000 gallons of potable water is lost monthly to leaks in homes and businesses serviced by Pasco County Utilities.
3. About 25 million gallons of reclaimed water is piped daily for irrigation to about 34,000 Pasco County Utilities customers.
4. Irrigation can use up to 75 percent of a household's monthly water use.

Estimate your water use

University of Florida experts tell us that the average household in the Tampa Bay area – that includes Pasco County – uses 141 gallons of water indoors each day.

How much water does your household use? Find out here.

Record the total minutes used for each activity shown in the table below. Record the number of minutes/events for each activity. Multiply the number in the "Total Minutes" and the "Loads per Day" column by the number of gallons shown in the "Water Used" column, place answer in the "Gallons Used" column. Add all the numbers under "Gallons Used" to estimate your daily household water use.

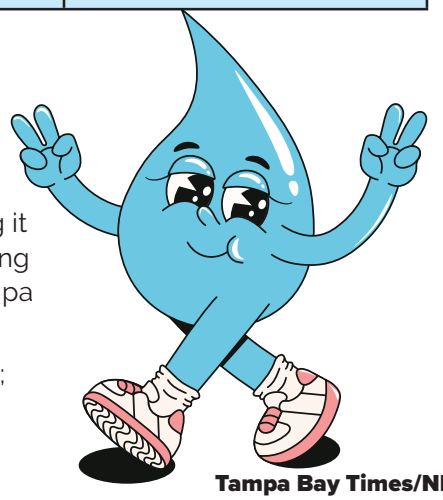
Activity	Water Used per Minute	Total Minutes	Gallons Used
Garbage Disposal	2 gallons		
Brushing Teeth	2 gallons		
Washing Hands	2 gallons		
Washing Dishes by Hand	2 gallons		
Shower	2 gallons		
Irrigation by Hose	7 gallons		
Irrigation by In-Ground System	12 gallons		
Activity	**Water Used per Load**	**Loads per Day**	**Gallons Used**
Washing Dishes by Dishwasher	4 gallons		
Laundry	20 gallons		

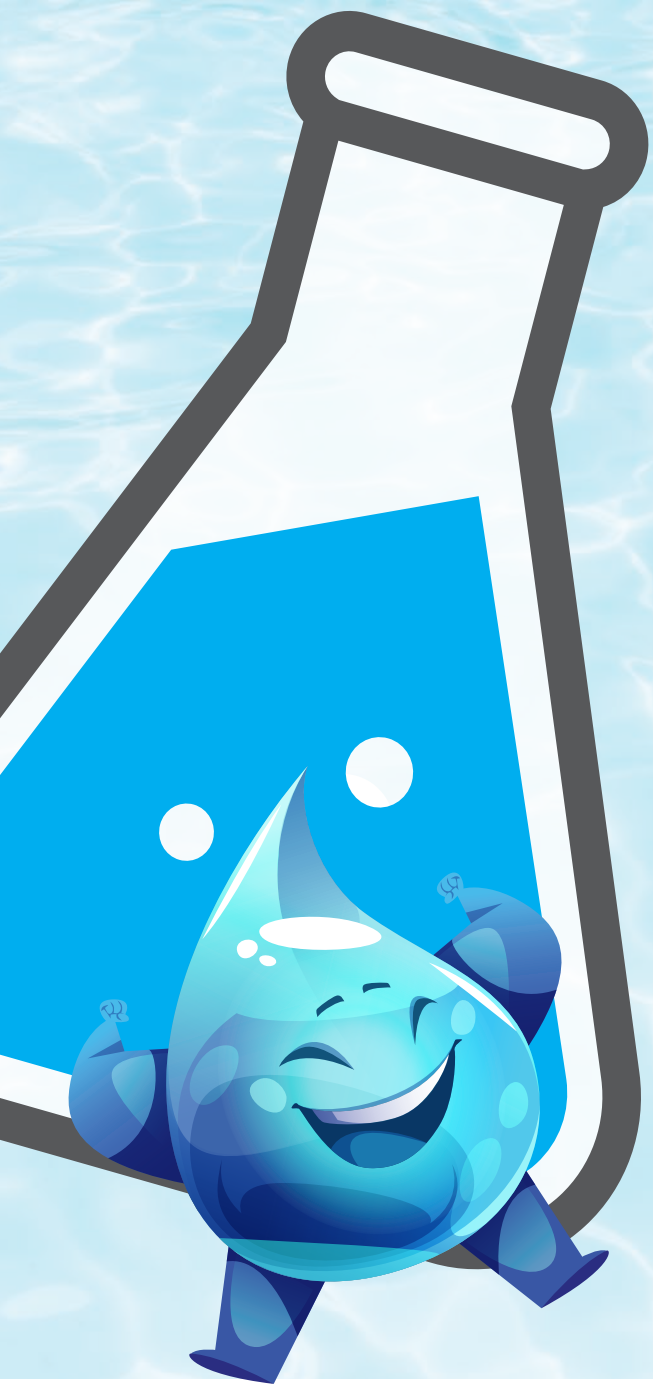
GOING BEYOND THE TEXT

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.

Florida 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





Test your water sense

Use the information you find in this publication to test your knowledge about water.

1. **Approximately how many gallons of reclaimed water are used daily in Pasco County?**
   a. 19 million
   b. 12 million
   c. 25 million

2. **How many gallons of water is used every day in the average Tampa Bay area household?**
   a. 140
   b. 250
   c. 165

3. **What percentage of a household's indoor water use is used by the toilet(s)?**
   a. 10 percent
   b. 25 percent
   c. 30 percent

4. **How many gallons of reclaimed water can be produced for every 4,000 gallons of water sent to Pasco County's wastewater treatment plants?**
   a. 1,000
   b. 2,500
   c. 4,000

5. **How much of Earth's water is located in lakes, rivers, streams and the soil?**
   a. 2.2 percent
   b. 3.5 percent
   c. 1.7 percent

6. **Which of these is not one of the six steps for drinking water production?**
   a. Carbonation
   b. Sedimentation
   c. Filtration

7. **Approximately how many fire hydrants does Pasco County Utilities own and maintain across the county?**
   a. 3,500
   b. 5,000
   c. 9,400

8. **When a home uses irrigation, up to what percentage of monthly water use is used by irrigation?**
   a. 45 percent
   b. 75 percent
   c. 50 percent

Answers on page 7

GOING BEYOND THE TEXT

THE IMPORTANCE OF WATER

Think about the importance of water to our lives and how water, the aquifer, conservation and pollution relate to the future of humankind and the quality of life. Watch the NBC Learn/National Science Foundation video series "Sustainability: Water," https://www. nsf.gov/news/mmg/index.jsp?series_name=Sustainability:%20Water. With your class, make a list of the concepts and ideas you discover. Next, in a small group, look for articles in the Tampa Bay Times about water conservation, the environment, pollution or any other topics you discussed with your class. Based on the information you read in these articles and watched in the videos, write an editorial on the importance of water in your community and to the future of humankind. Use the editorials and opinion columns in the Tampa Bay Times as models for your article.

Florida Standards: SC.35.N.1.1; SC.35.N.1.2; SC.35.N.1.3; SC.35.N.1.4; SC.35.N.3.1; ELA.35.C.1.3; ELA.35.C.1.4; ELA.35.C.2.1; ELA.35.C.3.1; ELA.35.C.4.1; ELA.35.R.2.2; ELA.35.R.2.3; ELA.35.R.2.4; ELA.35.V.1.1; ELA.35.V.1.3; ELA.35.F.2.1; ELA.35.F.2.2; ELA.35.F.2.3; ELA.35.F.2.4

Saving water is easy as 1-2-3...4-5 and 6!

As much of 75 percent of the average household's water use occurs outdoors. Use these simple tips to help reduce your water bill and save money.

1. Add an auto shut off hose nozzle to your water hose to save 3 to 5 gallons a minute.
2. Install a rain barrel to capture rainwater.
3. Use a broom to clean off outside living areas such as decks, porches and driveways rather than wasting water by hosing them off.
4. When cutting the lawn, set the mower blade to 2 to 3 inches high to prevent weeds, help shade the soil line, and maintain water in the soil.
5. Only water your lawn on your watering day and, then, only when necessary.
6. Mulch around plants and flower beds to help retain moisture, reduce erosion, suppress weeds and moderate temperature extremes.

Wash your pet outdoors in an area of your lawn that needs watering.

Why we save water

Living in Florida, we see water all around us. That makes it easy to forget that while approximately 71 percent of the Earth is covered with water, less than 1 percent of all that water is available for human use.

Couple that with the simple fact that all living things need water, and it starts to make sense that saving water is a necessary thing.

Three quick benefits of saving water

1. Saves money.
2. Helps keep your water and sewer costs as low as possible.
3. Helps keep our planet healthy.

GOING BEYOND THE TEXT

DO THE RESEARCH

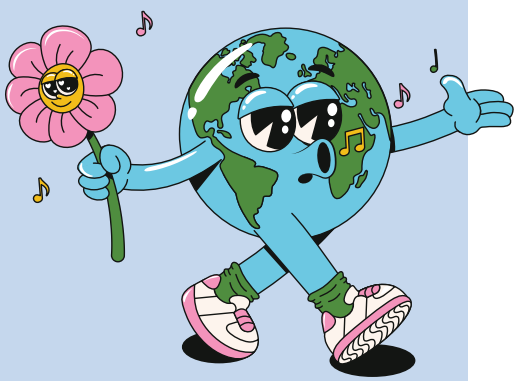
The major source of our water supply in Florida is the Floridan Aquifer. The aquifer is a huge underground reservoir, made up of porous limestone rock, which holds groundwater like a sponge. The water in the aquifer comes from rainfall that soaks into the ground. Rainfall that is not absorbed is called surface or stormwater runoff. We take water from the aquifer for human use through springs (natural openings in the ground where water flows directly from the aquifer to the surface) and wells (artificial holes drilled into the aquifer).

Research the following terms:

- Freshwater
- Groundwater
- Potable water
- Wastewater
- Reclaimed water
- Spring water
- Stormwater runoff

Create a poster depicting the types of water and what the water is used for. Share the information you learn with your class.

Standards: SC.35.N.1.1; SC.35.N.1.2; SC.35.N.1.3; SC.35.N.1.4; SC.35.N.3.1; SC.35.P.9.1; ELA.35.C.1.3; ELA.35.C.1.4; ELA.35.C.2.1; ELA.35.C.3.1; ELA.35.C.4.1; ELA.35.R.2.2; ELA.35.R.2.3; ELA.35.R.2.4; ELA.35.V.1.1; ELA.35.V.1.3; ELA.35.F.2.1; ELA.35.F.2.2; ELA.35.F.2.3; ELA.35.F.2.4



Talking turkey about toilets

Looking for the largest indoor water user at your home? Head to the bathroom. Toilets account for about 30 percent of an average home's indoor water use.

Toilets also are the most common place to find leaks inside a home. 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 a day. That's more than 6,000 gallons a month for just one leaking toilet!

Use these four steps every six to eight weeks to check at your home for toilet leaks.

1. Add food coloring (6 to 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 to prevent food coloring from staining.

In the United States, we flush away 5.7 billion gallons a day.

Source: College of Staten Island Sustainability

Looking for leaks in all the right places

Look under sinks and behind refrigerators and clothes washers for wet spots.

Check if the swimming pool needs to be topped off more often than it should.

Check outdoor spigots and hoses to be sure they are completely turned off.

Check that the water softener is not operating continually or using more salt.

Water pipes are color-coded

Blue = Potable water

Potable water is water that is safe to drink. Pasco County Utilities provides potable water to more than 150,000 homes and businesses in unincorporated portions of the county.

In the United States, water utilities must meet national drinking water quality standards established by the U.S. Environmental Protection Agency.

Learn how Pasco County Utiltities' water meets those standards in the utility's most recent water quality reports online at bit.ly/PascoWaterQualityReports

Green = Wastewater

Wastewater is water that has been used in a home or business, including water from sinks, showers, bathtubs, toilets, washing machines and dishwashers. Wastewater also is produced by industries such as agriculture, manufacturing and mining.

Wastewater contains pollutants such as human and animal waste, food scraps, oils, soaps and chemicals.

If not treated properly, these pollutants can find their way into waterways and the aquifer, resulting in harm to the environment, wildlife and human health.

Purple = Reclaimed water

Reclaimed water is highly treated wastewater than can be used for the irrigation of lawns, landscapes and golf courses. Reclaimed water also may be used for industrial purposes.

In Pasco County, about 25 million gallons of reclaimed water is used for landscape irrigation, industrial purposes, or land application to supplement aquifer recharge.

For every 4,000 gallons of potable water used by Pasco County Utilities customers, about 1,000 gallons return to the wastewater plant to be treated and reused as reclaimed water.

Where does our wastewater go?

After wastewater leaves your home — for example, down your sink, shower drain or toilet — it travels through your home's pipes to either a wastewater system or an on-site septic system.

If you are connected to a county sewer system, all the drains in your house connect to a single pipe that leads to the street. The pipe in the street collects wastewater from all the homes in your area. That pipe connects to other pipes in the system.

Eventually, all these pipes lead to one of the county's five wastewater treatment plants to be treated and cleaned so that it can safely be put back into the environment.

Answers to Test Your Water Sense on Page 4: 1 c, 2 a, 3 c, 4 a, 5 c, 6 a, 7 c, 8 b

H_2O Art Galler

Since 2010, Pasco County students and teachers have been using art to create and share water conservation messages with family, friends and neighbors via the Water Poster Contest. The contest is a cooperative effort between Pasco County Utilities and the Florida Governmental Utility Authority (FGUA), in cooperation with Pasco County Schools.

To date, nearly 20,000 students have studied water and water conservation in the classroom using program-provided materials, and then created original art to share what they learned.

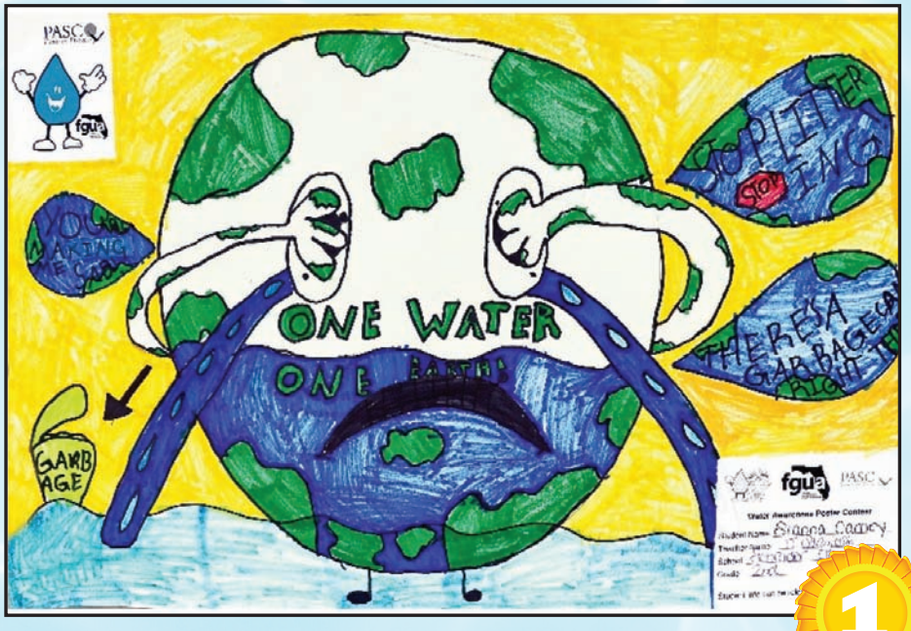
For the 2024 contest year, the contest received 1,229 entries from 17 schools with 43 participating teachers. Three home schoolers also joined the competition. The

Aaliyah Hishmeh
Kindergarten, Schrader Elementary

1ST PLACE

Camila Rodrigues
1st Grade, Odessa Elementary

1ST PLACE



Sianna Carney
Grade 2, Schrader Elementary

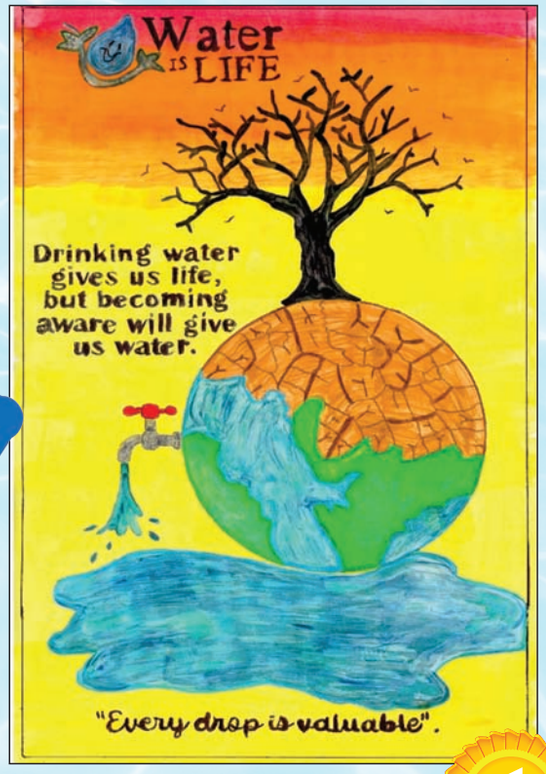
1ST PLACE

Lu
Gra

ry Avenue

theme for the 2024 contest was One Water; One Earth.

Here are the 1st place winners for grades K-5. To see the all the winners in grades K-5, along with program sponsor Honorable Mentions, go to WaterContest.org. While you are there, be sure to check out the program materials and timelines for participating in the 2025 contest year.



Christian Montilla

Grade 4, Wesley Chapel Elementary School

1ST PLACE

ucy Fernandes

de 3, Countryside Montessori

1ST PLACE

Arianna Emit

Grade 5, Countryside Montessori

1ST PLACE

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 in 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 the main point of the ads. Share your ads 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

Water cycle 101

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

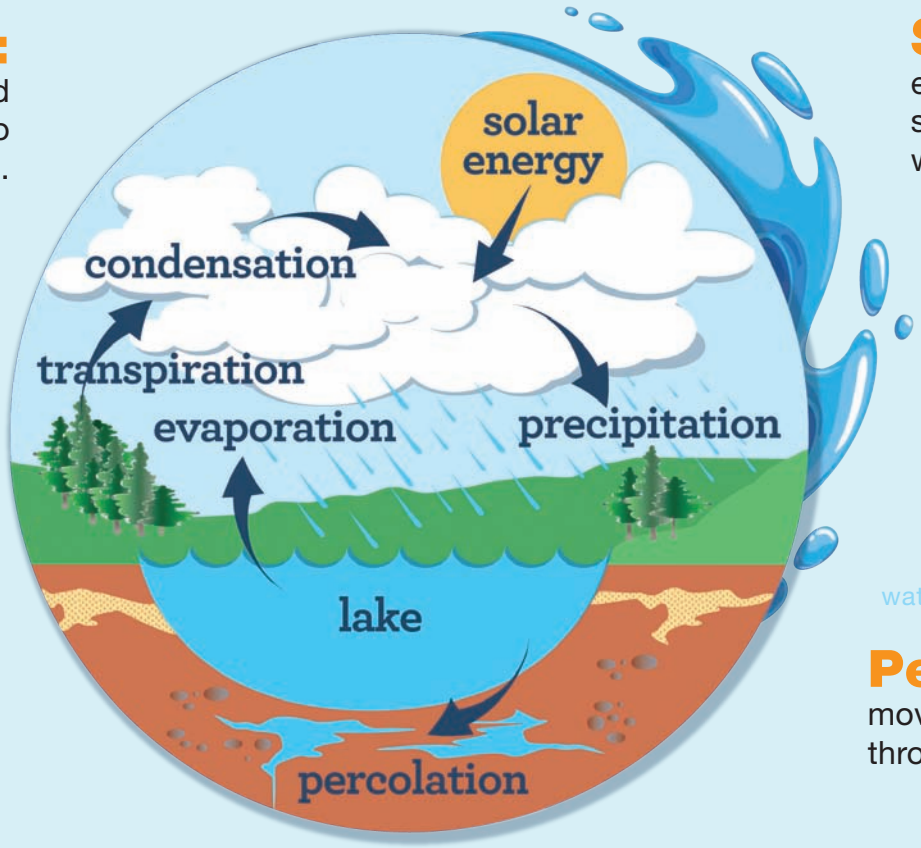
Condensation:
tiny droplets of water formed when water vapor rises into the air and cools.

waterislifewaterislifewaterislife

Transpiration:
vapor created when plants and trees give off moisture.

waterislifewaterislifewaterislife

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.

waterislifewaterislifewaterislife

Precipitation:
moisture released when clouds become heavy and form rain, snow and hail. The sun provides the power for the never-ending water cycle.

waterislifewaterislifewaterislife

Percolation:
movement of water through the ground.

The basis of a sustainable water supply is conservation of our water sources.

GOING BEYOND THE TEXT

PROTECTING OUR WATERSHED

Look in the Tampa Bay Times to find at least five images or stories that show or tell about a situation in which the watershed or ecosystem may be harmed. Write a description of each of the situations you find and identify how the watershed or ecology could be harmed. Are there laws against the situation presented? If so, are there penalties or fines?

Florida Standards: SC.5.E.7.2; SC.4.E.6.3; SC.45.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

Water world word search

T	O	L	A	K	E	W	W	M	J
A	R	W	Z	P	E	I	E	Y	P
I	I	E	U	Y	I	S	R	L	O
P	J	D	A	L	Z	P	F	P	L
F	F	S	Q	T	L	R	E	G	L
W	I	J	T	T	M	G	J	S	U
S	A	L	X	R	A	E	O	O	T
A	J	T	T	N	E	N	N	M	I
F	F	B	E	E	T	A	K	T	O
E	J	L	H	R	R	S	M	M	N

Find these words:

See solution on Page 15

Stream, Water, Pollution, Safe, Lake, Pipes, Tank, Filter, Well, Treatment

Think about it: Water facts

In one year, the average U.S. household uses more than 100,000 gallons. (inside and outside)

Source: United States Department of Agriculture

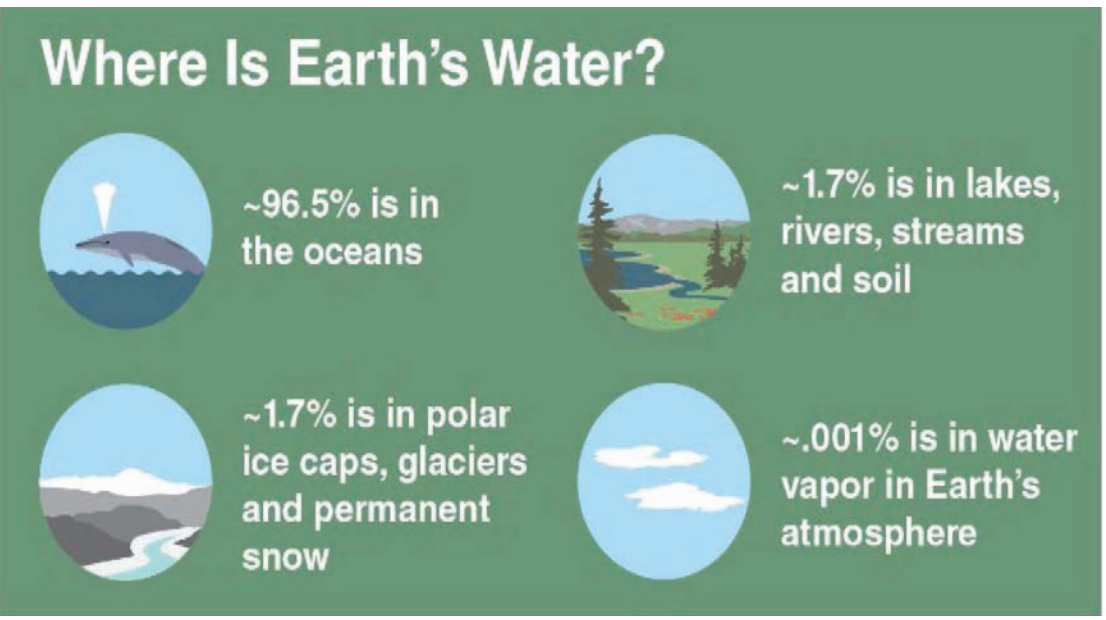
Worldwide, 2 billion people lack access to safely managed drinking water at home.

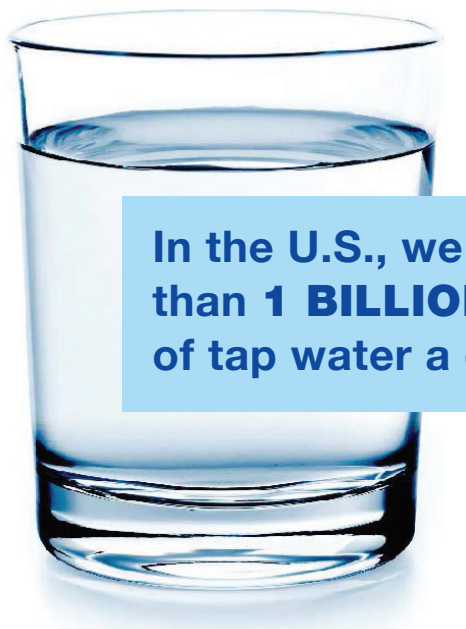
Source: Centers for Disease Control and Prevention

Efficient irrigation saves water

Outdoor water use can account for up to 75% of residential water use. Too much of that water can be lost through irrigation system inefficiencies and controller management issues. Save water and money with routine irrigation maintenance and efficient practices. Run the zones one at a time and inspect each sprinkler head looking for these common problems:

- Missing or leaking system heads
- System leaks
- Overspray or misdirected heads
- Obstructed heads
- Rain device missing or not working





In the U.S., we drink more than 1 BILLION GLASSES of tap water a day!

Water quality on tap

Water utilities across the United States – including Pasco County Utilities – are collecting and testing water samples to measure the levels of PFAS in drinking water.

PFAS are man-made chemicals that have been used widely since the 1940s in many of the products people use daily. They resist heat, oil, stains, grease and water. We now know that PFAS are not good for people or the environment.

Pasco County Utilities began PFAS testing in July 2023 and will continue sampling through December 2025. In addition to monitoring, Pasco County Utilities and our regional water provider, Tampa Bay Water, have been exploring treatment processes that can remove PFAS and other contaminants, if needed.

See the lab results to date at bit.ly/PascoPFASResults.

PFAS

is the easy way to say Perfluoroalkyl and Polyflyoroaklyl substances.

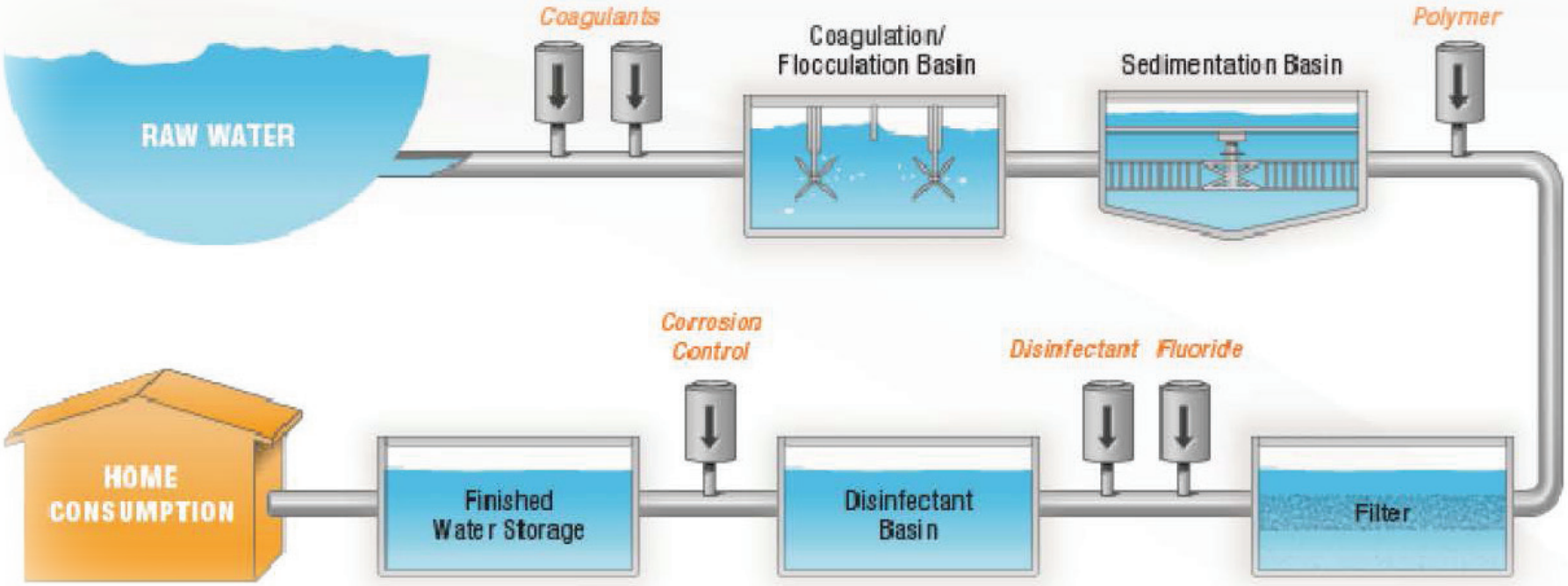
GOING BEYOND THE TEXT

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. It is everyone's job to not only realize that, but also to make an effort 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 water ecosystems 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.5.E.7.2; SC.4.E.6.3; SC.45.N.1.1; ELA.35.C.1.3; ELA.35.C.1.4; ELA.35.C.2.1; ELA.35.C.3.1; ELA.35.C.4.1; ELA.35.R.2.2; ELA.35.R.2.3; ELA.35.R.2.4; ELA.35.V.1.1; ELA.35.V.1.3; ELA.35.F.2.1; ELA.35.F.2.2; ELA.35.F.2.3; ELA.35.F.2.4

Making drinking water for Pasco



Coagulation:	Coagulation is the chemical process of removing suspended solids from source water. The process causes the solids to start to bind together to form small particles called flocs.
Flocculation:	During the flocculation process, polymers are added to the water inside another large tank. The polymers help the smaller clumps of floc bond together to form larger clumps.
Sedimentation:	Water moves up a series of closely spaced plates allowing heavier floc particles to settle to the bottom.
Filtration:	Water enters near the top of the filter bed and flows down through the filter media.
Disinfection:	Disinfectants are added to the water in the final stage to kill any disease-causing organisms that may be in the water.
Corrosion Control:	The pH level of drinking water reflects how acidic it is. Acidity (pH) is measured on a scale of 0 to 14, with 7 considered neutral.

Pasco County Utilities owns and maintains about **9,350 FIRE HYDRANTS** across the service area.

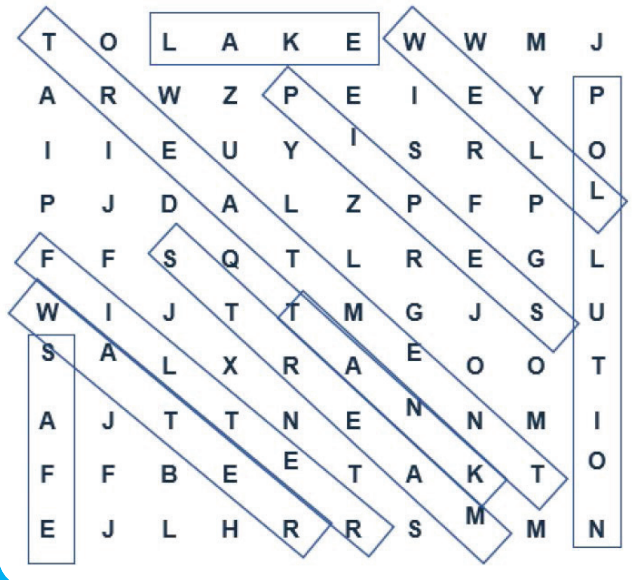
GOING BEYOND THE TEXT

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 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.

Standards: SC.5.E.7.2; SC.4.P.8.2; ELA.35.C.1.3; ELA.35.C.1.4; ELA.35.C.2.1; ELA.35.C.3.1; ELA.35.C.4.1; ELA.35.R.2.2; ELA.35.R.2.3; ELA.35.R.2.4; ELA.35.V.1.1; ELA.35.V.1.3; ELA.35.F.2.1; ELA.35.F.2.2; ELA.35.F.2.3; ELA.35.F.2.4

Water World Word Search Solution



About Pasco County Utilities

Pasco County Utilities' constant goal is to provide our customers with a dependable supply of high-quality drinking water. To meet that goal, the utility purchases water from Tampa Bay Water in addition to owning and operating a water system consisting of groundwater supply wells, and a potable water storage and distribution system. The utility also provides its service area with wastewater and reclaimed water services.

Pasco County Utilities offers water conservation programming as an integral part of our commitment to providing a dependable water supply and an important contribution to the resiliency and sustainability of the communities we serve.

For more information about Utilities Services and water conservation, visit PascoCountyUtilities.com.

Pasco County Utilities account holders may be eligible for cash rebates on a variety of water wise initiatives. Find out more at PascoCountyUtilities.com.

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 2023-2024, NIE provided almost 200,000 print copies and nearly 10 million e-Newspaper licenses to Tampa Bay classrooms. For more information about NIE, visit tampabay.com/nie, call 727-893-8138 or email ordernie@tampabay.com. Follow us on X at X.com/TBTimesNIE. Find us on Facebook at facebook.com/TBTNIE.

NIE staff

Jodi Pushkin, manager, jpushkin@tampabay.com
Sue Bedry, development officer, sbedry@tampabay.com

Credits

Project manager: Sue Bedry, Times staff
Designed by: Stacy Rector, Fluid Graphic Design, stacyrector1@comcast.net, fluidgraphicdesign.com
Written by: Sandra E. Anderson, Pasco County Utilities, Customer Information & Services Director
Phoenix McKinney, Pasco County Utilities Water Conservation & Efficiency Coordinator
Jodi Pushkin, Times staff

©Tampa Bay Times 2024

Cover art: Vanesa Shook, Pasco County Utilities Communication Coordinator

Florida Standards

This publication and its activities incorporate the following Florida Standards for elementary school students. 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.1.4; 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.F.2.1; ELA.25.F.2.2; ELA.25.F.2.3; ELA.25.F.2.4; 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 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.25CS-CS.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.6.6; SC.25.E.7.1; SC.5.E.7.2; 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; SC.4.P.8.2; SC.35.P.9.1