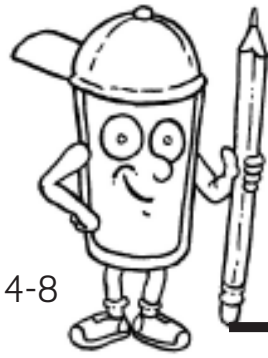


POARCH BAND OF CREEK INDIANS UTILITIES AUTHORITY



2018 ANNUAL WATER QUALITY REPORT



4-8

Matching Game

How Much Water?

Draw a line matching the items on the left to the amount of water on the right.

1. Taking a shower ☐
2. Watering the lawn ☐
3. Washing the dishes ☐
4. Washing clothes ☐
5. Flushing the toilet ☐
6. Brushing teeth ☐
7. Drinking ☐
8. Needed to produce one ton of steel ☐
9. Needed to process one can of fruit or vegetables ☐
10. Needed to manufacture a new car and its four tires ☐

- A. 30 gallons
- B. 180 gallons
- C. 4-7 gallons
- D. 1/2 gallon
- E. 39,090 gallons
- F. 62,600 gallons
- G. 15-30 gallons
- H. 9.3 gallons
- I. 1 gallon
- J. 9-20 gallons



Answers: 1-G, 2-B, 3-J, 4-A, 5-C, 6-I, 7-D, 8-F, 9-H, 10-E





Understanding Your WATER QUALITY REPORT

The Consumer Confidence Report (CCR) is an annual water quality report that a community water system is required by law to provide to its customers each year by July 1st. Your CCR can help you make informed choices about the water you drink.

Your CCR Provides Need-To-Know Information

SUCH AS:



Where your water comes from—such as an aquifer, lake, river, or other source.



A list of regulated contaminants that the CWS detected and the level.



Potential health effects from consuming contaminated water and additional safeguards against water-related illnesses.



Contaminant levels in your CCR compared to national standards and any violations of health-based standards.

Sample Water Quality Data Table

Your CCR will also include a water quality data table that may look similar to this:

1

Maximum Contaminant Level Goal (MCLG):

If the value in the "Your Water" column is below this MCLG there is no known or expected risk to your health.

2

Maximum Residual Disinfection Level Goal (MRDLG):

If the value in the "Your Water" column is below the MRDLG there is no known or expected risk to your health.

3

Maximum Contaminant Level (MCL):

If the value in the "Your Water" column is above the MCL, the system is in violation of EPA's regulations.

4

Treatment Technique (TT):

A required process intended to reduce the level of a contaminant in drinking water.

Contaminants	1	3	4	6	7	8	Typical Sources
	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range Low High	Sample Date	Violation	
Disinfectant Residual							
Chloramine (as Cl ₂) (mg/L)	4	4	1	1 3	2008	No	Water additive to control microbes.
Inorganic Contaminants							
Antimony (ppb)	6	6	ND	N/A	2008	No	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder
Radioactive Contaminants							
Alpha emitters (pCi/L)	0	15	4*	1 4	2006	No	Erosion of natural deposits

5 Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in your drinking water. A certain amount of disinfectant has been shown to help control germs and microbes in the water.

6 Your Water: The highest level of that contaminant found in your water during sampling.

7 Range detected: The "range" refers to the levels—high and low—at which contaminants were detected in your drinking water.

8 Violation: Shows if a contaminant is present in your drinking water is above the level allowed by EPA.

WHY don't I get a CCR?



If you don't pay your own water bill because you live in an apartment, condo, or rental property or you get your water from a private ground water well, you don't receive a CCR. Renters can contact their building manager or search online to see if your CWS publishes its CCR.

Questions Or Concerns About Your CCR



CALL EPA'S SAFE WATER HOTLINE at 1-800-426-4791 if you would like to know more about your CCR, how to locate your local water company, or for more resources.



CONTACT YOUR HEALTHCARE PROVIDER if you are sensitive to contaminants or if you are at higher risk of infections.



CONTACT YOUR WATER COMPANY for information on how to remove chemicals and microbes from your water source.

For more information, visit: epa.gov/ccr

HOW TO DRINK MORE WATER

Your Step by Step Daily Water Drinking Plan.



6-8am • benefits

CUP #1 AND 2
Drink 2 cold glasses of water in the morning when you wake up and before you eat breakfast.

- ✓ Eliminate Toxins
- ✓ Rehydrate your brain & wake up
- ✓ Kick start your metabolism by 24% before breakfast.
- ✓ Stimulate your digestive system and get things moving.

9-10am • benefits

CUP #3
Drink one cup around morning tea time or when you start to feel peckish & before you reach for an unhealthy snack.

- ✓ Lubricate joints and cartilage to get your body moving.
- ✓ Get an Immunity Booster Shot and neutralize the PH in your body.
- ✓ Look younger with plumper hydrated skin.

10am - 12pm • benefits

CUP #4
Drink a glass of water at least 1/2 an hour before you have your lunch.

- ✓ Burn an extra 5lb of fat / year. Boost your metabolism for the next 30 - 40 minutes.
- ✓ Power up your mental creativity by up to 30%

12pm - 2pm • benefits

CUP #5
Drink a glass of water at least 1/2 an hour after lunch.

- ✓ Prevent premature aging of the major organs in your body.
- ✓ Increased production of blood and muscle cells.

2pm - 4pm • benefits

CUP #6
Enjoy a cold glass of water when you start to feel that afternoon slow down.

- ✓ Natural Energy Drink: Reduced fatigue & increases enzyme activity in the body.
- ✓ Lowers Cholesterol production.

4pm - 6pm • benefits

CUP #7
Drink this one at least 1/2 an hour before dinner.

- ✓ Reduce your risk of colon cancer by 45% & bladder cancer by 50%

before bedtime • benefits

CUP #8
Water should be served at room temp & at least 20 min before bed.

- ✓ Eliminate toxins and inflammation causing bacteria.



2018 Annual Water Quality Report
(Testing Performed January through December 2017)

POARCH BAND OF CREEK INDIANS UTILITY AUTHORITY

5811 Jack Springs Road
Atmore, AL 36502
Phone 251-446-1617
Fax 251-446-1624

We are pleased to present to you this year's Annual Water Quality Report. This report will tell you where your water comes from, what contaminants have been detected, and how these detection levels compare to Federal and State drinking water standards. This report is designed to inform you about the quality water and services we deliver to you every day. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Water Source	Two groundwater wells producing from the Miocene formation	
	Purchased groundwater from Freemanville Water System	
Water Treatment	Chlorination, fluoridation and pH adjustment	
Storage Capacity	Two storage tanks with a total capacity of 1.2 million gallons	
Number of Customers	Approximately 240	
Board Members	Chairman	Josh Martin
	Vice Chairman	Ron Marshall
	Treasurer/Secretary	Chris McGhee
	Member	Shawn Rolin
	Member	Patrick Strickland
	Member	Ronald Rolin
	Member	Charles Bray
Staff	Utilities Executive Director	Josh Thomas
	Maintenance Superintendent	James Ramer
	Customer Service Supervisor	Rebecca Black
	Operations Manager	Shaun Livermore
	Maintenance Foreman	Nathaniel Dortch
	Chief Operator	Bill Holmes
	Office Coordinator	Kimberly Weatherford
	Operations Supervisor	Dempsey Rolin
	Field Operations Technician	Trenton McGhee
	Operations Technician	Larry Bailey Jr.
	Maintenance Technician	Bo Slate & Trent Flowers
	Utilities Assistants	Jerry Walker & Blake Cunningham

Source Water Assessment

In compliance with the Alabama Department of Environmental Management (ADEM), **Poarch Band of Creek Indians Utility Authority** has developed a Source Water Assessment that will assist in protecting our water sources. This plan provides additional information such as potential sources of contamination. It includes a Susceptibility Analysis, which classifies potential contaminants as high, moderate, or non-susceptible to contaminating the water source. The report has been completed and approved by ADEM. A copy of the report is available in our office for review.

Please help us make this effort worthwhile by protecting our source water. Carefully follow instructions on pesticides and herbicides you use for your lawn and garden, and properly dispose of household chemicals, paints and waste oil.

Questions?

If you have any questions about this report or concerning your water utility, please contact **Josh Thomas**. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the third Thursday of each month at the Utilities Office, 263 Aplin Rd, Atmore, Alabama. More information about contaminants to drinking water and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (1-800-426-4791).

General Information

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. MCL's, defined in a List of Definitions in this report, are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material, and it can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water run-off, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water.

Some people may be more vulnerable to contaminants in drinking water than the general population. People who are immunocompromised such as cancer patients undergoing chemotherapy, organ transplant recipients, HIV/AIDS positive or other immune system disorders, some elderly, and infants can be particularly at risk from infections. People at risk should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Information about Lead

Lead in drinking water is rarely found in source water but is primarily from materials and components associated with service lines and home plumbing. Your water system is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Use *only* water from the cold-water tap for drinking, cooking, and *especially for making baby formula*. Hot water is more likely to cause leaching of lead from plumbing materials. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. These recommended actions are very important to the health of your family.

Lead levels in your drinking water are likely to be higher if:

- Your home or water system has lead pipes, or
- Your home has faucets or fittings made of brass which contains some lead, or
- Your home has copper pipes with lead solder and you have naturally soft water, and
- Water often sits in the pipes for several hours.

If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water hotline or at www.epa.gov/safewater/lead.

Monitoring Information

Poarch Band of Creek Indians Utility Authority routinely monitors for contaminants in your drinking water according to Federal laws, using EPA approved methods and a certified laboratory. Environmental regulations allow us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule.

Constituents Monitored	Poarch Creek	Freemanville
Inorganic Contaminants	2017	2016
Lead/Copper	2015	2017
Microbiological Contaminants	current	current
Nitrates	2017	2017
Radioactive Contaminants	2015	2010
Synthetic Organic Contaminants (including pesticides and herbicides)	2017	2015
Volatile Organic Contaminants	2015	2017
Disinfection By-products	2017	2017

Monitoring Results

As you can see by the following tables, our system had no violations. We have learned through our monitoring and testing that some constituents have been detected. We are pleased to report that our drinking water meets federal and state requirements. The following table shows *only* those contaminants that were detected in our water.

POARCH BAND OF CREEK INDIANS UTILITY AUTHORITY						
TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Radium-226	NO	0.6 ± 0.5	PCi/l	0	5	Erosion of natural deposits
Combined radium	NO	3.0 ± 0.6	PCi/l	0	5	Erosion of natural deposits
Uranium	NO	0.3 ± 0.3	ppb	0	30	Erosion of natural deposits
Copper	NO	0.118 * 0>AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	NO	ND-0.61	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and chemical factories
Nitrate (as Nitrogen)	NO	0.35-1.10	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	ND-12.7	ppb	0	80	By-product of drinking water chlorination
HAA5 [Total haloacetic acids]	NO	ND-2.47	ppb	0	60	By-product of drinking water chlorination
Unregulated Contaminants						
Chloroform	NO	ND-1.44	ppb	n/a	n/a	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Bromodichloromethane	NO	ND-0.70	ppb	n/a	n/a	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Secondary Contaminants						
Chloride	NO	3.40-4.23	ppm	n/a	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Hardness	NO	2.03-5.83	ppm	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
pH	NO	7.29-7.79	S.U.	n/a	n/a	Naturally occurring in the environment or as a result of treatment with water additives
Sodium	NO	13.9-41.4	ppm	n/a	n/a	Naturally occurring in the environment
Sulfate	NO	ND-2.08	ppm	n/a	250	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff
Total Dissolved Solids	NO	28.0-136	ppm	n/a	500	Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff

* Figure shown is 90th percentile, and # of sites above (>) Action Level (AL) = 0

FREEMANVILLE WATER SYSTEM						
TABLE OF DETECTED DRINKING WATER CONTAMINANTS						
Contaminants	Violation Y/N	Level Detected	Unit Msmt	MCLG	MCL	Likely Source of Contamination
Copper	NO	0.282 * 0>AL	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate (as Nitrogen)	NO	0.52-0.98	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
TTHM [Total trihalomethanes]	NO	ND-3.08	ppb	0	80	By-product of drinking water chlorination
Secondary Contaminants						
Chloride	NO	3.82-5.02	ppm	none	250	Naturally occurring in the environment or from runoff
Hardness	NO	2.11-5.50	ppm	none	none	Naturally occurring in the environment or from treatment
pH	NO	7.00-7.92	S.U.	none	none	Naturally occurring in the environment or from treatment
Sodium	NO	39.3-42.5	ppm	none	none	Naturally occurring in the environment
Sulfate	NO	0.59-0.62	ppm	none	250	Naturally occurring in the environment; erosion
Total Dissolved Solids	NO	56.0-124	ppm	none	500	Naturally occurring in the environment or from runoff

* Figure shown is 90th percentile and # of sites above action level (1.3 ppm) = 0

Definitions

Action Level (AL)- the concentration of a contaminant that, if exceeded, triggers treatment or other requirements.

Coliform Absent (ca)-Laboratory analysis indicates that the contaminant is not present.

Disinfection byproducts (DBPs)- are formed when disinfectants used in water treatment plants react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water.

Locational Running Annual Average (LRAA)-yearly average of all the DPB results at each specific sampling site in the distribution system. The highest distribution site LRAA is reported in the Table of Detected Contaminants.

Maximum Contaminant Level (MCL)- The MCL is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG)- The MCLG is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL)-the highest level of a disinfectant allowed in drinking water

Millirems per year (mrem/yr)-measure of radiation absorbed by the body.

Nephelometric Turbidity Unit (NTU)-a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Non-Detects (ND)- laboratory analysis indicates that the constituent is not present above detection limits of lab equipment.

Not Reported (NR)-laboratory analysis, usually Secondary Contaminants, not reported by water system. EPA recommends secondary standards to water systems but does not require systems to comply.

Parts per billion (ppb) or Micrograms per liter (µg/l)-one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per million (ppm) or Milligrams per liter (mg/l)-one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l)-one part per quadrillion corresponds to one minute in 2,000,000,000 years, or a single penny in \$10,000,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l)-one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Picocuries per liter (pCi/L)-picocuries per liter is a measure of the radioactivity in water.

RAA-Running annual average

Standard Units (S.U.)-pH of water measures the water's balances of acids and bases and is affected by temperature and carbon dioxide gas. Water with less than 6.5 could be acidic, soft, and corrosive. A pH greater than 8.5 could indicate that the water is hard.

Treatment Technique (TT)- a required process intended to reduce the level of a contaminant in drinking water.

Variances & Exemptions (V&E)-State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Tips on Becoming Water-Wise

Read Your Water Meter: Use your water meter to check for leaks in your home. Start by turning off all faucets and water-using appliances and make sure no one uses water during the testing period. Take a reading on your water meter, wait for about 30 minutes, and then take a second reading. If the numbers have changed, you have a leak.

Check for Leaky Toilets: The most common source of leaks is the toilet. Check toilets for leaks by placing a few drops of food coloring in the tank. If after 15 minutes the dye shows up in the bowl, the toilet has a leak. Leaky toilets can usually be repaired inexpensively by replacing the flapper.

Check for Leaky Faucets: The next place to check for leaks is your sink and bathroom faucets. Dripping faucets can usually be repaired by replacing the rubber O-ring or washer inside the valve.

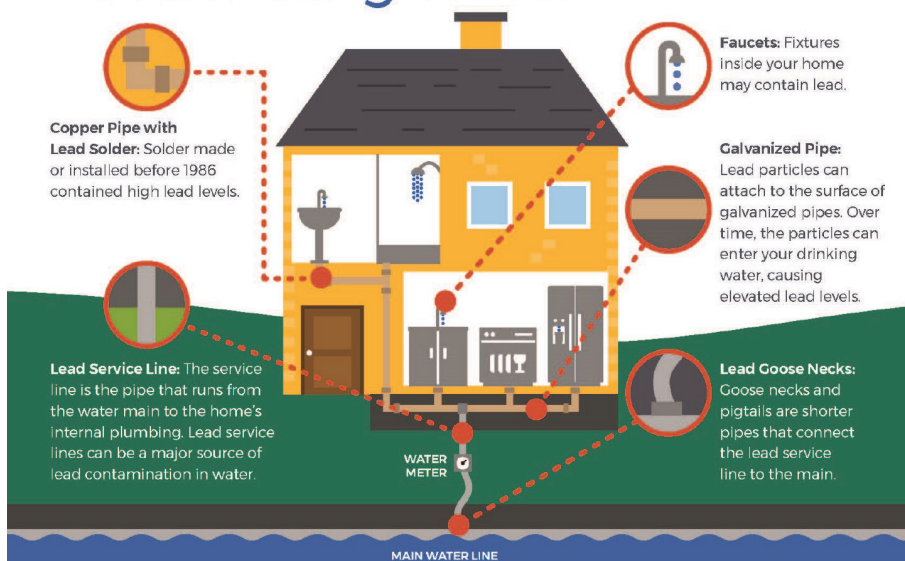
Following is a list of *Primary Drinking Water Contaminants* and a list of *Unregulated Contaminants* for which our water system routinely monitors. These contaminants were *not* detected in your drinking water unless they are listed in the *Table of Detected Drinking Water Contaminants*.

STANDARD LIST OF PRIMARY DRINKING WATER CONTAMINANTS					
Contaminant	MCL	Unit of Msmt	Contaminant	MCL	Unit of
Bacteriological Contaminants			trans-1,2-Dichloroethylene	100	ppb
Total Coliform Bacteria	<5%	present or absent	Dichloromethane	5	ppb
Fecal Coliform and E. coli	0	present or absent	1,2-Dichloropropane	5	ppb
Fecal Indicators (enterococci or coliphage)	0	present or absent	Di (2-ethylhexyl)adipate	400	ppb
Turbidity	TT	NTU	Di (2-ethylhexyl)phthalate	6	ppb
Cryptosporidium	TT	Calculated organisms/liter	Dinoseb	7	ppb
Radiological Contaminants			Dioxin [2,3,7,8-TCDD]	30	ppq
Beta/photon emitters	4	mrem/yr	Diquat	20	ppb
Alpha emitters	15	pCi/l	Endothall	100	ppb
Combined radium	5	pCi/l	Endrin	2	ppb
Uranium	30	pCi/l	Epichlorohydrin	TT	TT
Inorganic Chemicals			Ethylbenzene	700	ppb
Antimony	6	ppb	Ethylene dibromide	50	ppt
Arsenic	10	ppb	Glyphosate	700	ppb
Asbestos	7	MFL	Heptachlor	400	ppt
Barium	2	ppm	Heptachlor epoxide	200	ppt
Beryllium	4	ppb	Hexachlorobenzene	1	ppb
Cadmium	5	ppb	Hexachlorocyclopentadien	50	ppb
Chromium	100	ppb	Lindane	200	ppt
Copper	AL=1.3	ppm	Methoxychlor	40	ppb
Cyanide	200	ppb	Oxamyl [Vydate]	200	ppb
Fluoride	4	ppm	Polychlorinated biphenyls	0.5	ppb
Lead	AL=15	ppb	Pentachlorophenol	1	ppb
Mercury	2	ppb	Picloram	500	ppb
Nitrate	10	ppm	Simazine	4	ppb
Nitrite	1	ppm	Styrene	100	ppb
Selenium	.05	ppm	Tetrachloroethylene	5	ppb
Thallium	.002	ppm	Toluene	1	ppm
Organic Contaminants			Toxaphene	3	ppb
2,4-D	70	ppb	2,4,5-TP(Silvex)	50	ppb
Acrylamide	TT	TT	1,2,4-Trichlorobenzene	.07	ppm
Alachlor	2	ppb	1,1,1-Trichloroethane	200	ppb
Benzene	5	ppb	1,1,2-Trichloroethane	5	ppb
Benzo(a)pyrene [PAHs]	200	ppt	Trichloroethylene	5	ppb
Carbofuran	40	ppb	Vinyl Chloride	2	ppb
Carbon tetrachloride	5	ppb	Xylenes	10	ppm
Chlordane	2	ppb	Disinfectants & Disinfection		
Chlorobenzene	100	ppb	Chlorine	4	ppm
Dalapon	200	ppb	Chlorine Dioxide	800	ppb
Dibromochloropropane	200	ppt	Chloramines	4	ppm
o-Dichlorobenzene	600	ppb	Bromate	10	ppb
p-Dichlorobenzene	75	ppb	Chlorite	1	ppm
1,2-Dichloroethane	5	ppb	HAA5 [Total haloacetic	60	ppb
1,1-Dichloroethylene	7	ppb	TTHM [Total	80	ppb
cis-1,2-Dichloroethylene	70	ppb			
UNREGULATED CONTAMINANTS					
1,1 – Dichloropropene	Aldicarb	Chloroform	Metolachlor		
1,1,1,2-Tetrachloroethane	Aldicarb Sulfone	Chloromethane	Metribuzin		
1,1,2,2-Tetrachloroethane	Aldicarb Sulfoxide	Dibromochloromethane	N - Butylbenzene		
1,1-Dichloroethane	Aldrin	Dibromomethane	Naphthalene		
1,2,3 - Trichlorobenzene	Bromobenzene	Dicamba	N-Propylbenzene		
1,2,3 - Trichloropropane	Bromochloromethane	Dichlorodifluoromethane	O-Chlorotoluene		
1,2,4 - Trimethylbenzene	Bromodichloromethane	Dieldrin	P-Chlorotoluene		
1,3 – Dichloropropane	Bromoform	Hexachlorobutadiene	P-Isopropyltoluene		
1,3 – Dichloropropene	Bromomethane	Isopropylbenzene	Propachlor		
1,3,5 - Trimethylbenzene	Butachlor	M-Dichlorobenzene	Sec - Butylbenzene		
2,2 – Dichloropropane	Carbaryl	Methomyl	Tert - Butylbenzene		
3-Hydroxycarbofuran	Chloroethane	MTBE	Trichlorofluoromethane		



CONCERNED ABOUT LEAD IN YOUR DRINKING WATER?

Sources of **LEAD** in Drinking Water



Reduce Your Exposure To Lead



Use only cold water for drinking, cooking and making baby formula. *Boiling water does not remove lead from water.*



Regularly clean your faucet's screen (also known as an aerator).



Consider using a water filter certified to remove lead and know when it's time to replace the filter.



Before drinking, flush your pipes by running your tap, taking a shower, doing laundry or a load of dishes.

To find out for certain if you have lead in drinking water, **have your water tested.**

Replace Your Lead Service Line



Water systems are required to replace lead service lines if a water system cannot meet EPA's Lead Action Level through optimized corrosion control treatment.

Replacement of the lead service line is often the responsibility of both the utility and homeowner.

Homeowners can contact their water system to learn about how to remove the lead service line.

Identify Other Lead Sources In Your Home

Lead in homes can also come from sources other than water. If you live in a home built before 1978, you may want to have your paint tested for lead. Consider contacting your doctor to have your children tested if you are concerned about lead exposure.

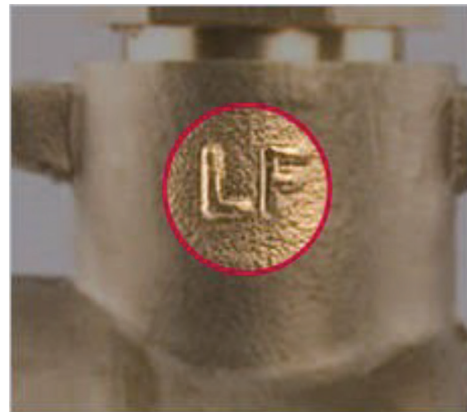


For more information, visit: epa.gov/safewater



GET THE **LEAD** OUT

**PLEASE DO
YOUR PART
TO PROTECT
YOUR FAMILY.**





WATER CYCLE DISCOVERY BOTTLE

Upon completion of this activity, students will gain an understanding of how the sun provides the energy for the phase changes of the water cycle.

Time Needed

60 minutes

Materials List

1. Recycled clear plastic water bottle with cap
2. Water
3. Blue food coloring
4. Sharpie marker

Background

What is the water cycle and how does it work? All the water that has ever existed on Earth is still here and gets cycled and recycled infinitely as it changes from gas to liquid to solid and back again. The sun's energy heats up water on the surface, in lakes, rivers and oceans, and causes evaporation. When this vapor hits cooler air it changes back to its liquid form and creates clouds. This part of the water cycle is called condensation. When so much of water vapor has condensed that the droplets become large and heavy, the liquid falls back down in the form of precipitation. When the water falls back down it may collect in different bodies of water like rivers, streams, lakes or oceans. Or it may sink into the ground to feed plants, get stored in an aquifer, or it may runoff into nearby bodies of water if the ground is already saturated. Eventually the water evaporates which is all part of the water cycle and at another point it will fall back down to the ground. In the water cycle discovery bottle you can not see each stage completely, but it is a great hands-on project to go along

with talking about the water cycle with your kids. It's a simple way to provide a visual for kids to see the changes.

Here is a great resource for more information and activities about the water cycle:

USGS Water Science School
<https://goo.gl/917sae>

Learning Target

Upon completion of this activity, students will gain an understanding of how the sun provides the energy for the phase changes of the water cycle.

Essential Questions

- What are the 3 stages of the water cycle?
- Why is the sun's energy important to the water cycle?

Bridge

Introduce the activity with a connection to prior knowledge... Begin by asking your students if they know of anything that "cycles"? They might think of recycling, when an object can be used over and over again, such as a plastic bottle that can be



melted, re-molded and reused infinitely. Another great example would be the cycle of the seasons. Then ask if they are familiar with the water cycle. Most students have been exposed to this concept by mid- to late-elementary years. Review the stages of the water cycle before introducing the construction of their discovery bottles.



Engage

Make it real, make it fun, help them build new knowledge...

First, have students draw a few elements of the water cycle on

their bottles - clouds, rain drops, the sun, a lake or puddle, land. Then add about 1/4 cup of water and a drop of food coloring. Seal the bottles and place them in a sunny location. Such as a window sill or perhaps outside if it is a warm season.

After about 30-60 minutes, have students observe any changes that have happened inside their bottles and discuss how these findings relate to the water cycle.

Enrich

Ideas for additional investigation and extension...

Make a water cycle bracelet to represent the steps or pathways of the water cycle. Use different colored beads to represent Sun, Evaporation (water vapor), Condensation (clouds), Precipitation (rain), Surface Water (lakes and ponds), Ground Water (water in the earth's aquifers and soils), Plants and Animals.

Reflect

What did you learn? What was surprising, fun, curious, What new question(s) do you now have?

7

AQUA POWER

Upon completion of this activity, students will have used experimentation to discover the mechanics of a water wheel.

Background

STEM learning experiences aren't just for the science classroom. There are many activities related to water that can be easily organized in the after school setting that provide experiential learning in the world of engineering. Water wheels are some of the earliest machines designed to harness the power of water to accomplish tasks. This activity gets kids building, thinking and experimenting. Here are a few good resources:

Teach Engineering : Water Wheel Lesson Plan <https://goo.gl/bgKhc5>

Green Kids Water Wheel Project <https://goo.gl/BGZkYt>

Cup and Plate Water Wheel <https://goo.gl/sxT8r8>

Make it Snappy Water Wheel <https://goo.gl/pDmPEL>

Learning Target

Upon completion of this activity, students will have used experimentation to discover the mechanics of a water wheel.

Essential Questions

- How does a water wheel work?
- What kinds of tasks can a water wheel do?
- What water wheel designs are most efficient?

Bridge

Introduce the activity with a connection to prior knowledge...

Ask students to think about how water can push things, change the shape of things. Likely responses include the action of waves, the force of a hose, erosion by rivers and streams. Explain that those are all examples of the force that moving water can exert on objects. Show pictures of water wheels. Discuss the kinds of work that water wheels do for people, such as grinding flour by turning large stones and generating electricity by turning magnetic turbines.

Engage

Make it real, make it fun, help them build new knowledge...

In groups of 2 or 3, students will then make their own version of



a water wheel. If working with young learners, show the demonstration wheel already constructed that they can copy. If older learners, show them the materials they can use to construct a water wheel and let them create the design. Test their final designs over a large plastic tote or bucket outdoors where water mess can be minimized.

Enrich

Ideas for additional investigation and extension...

Set up a competition to see how strong their water wheels are, by attaching a string and an object to the axle. Which water wheel can lift the heaviest object? Have student experiment with one design but different sizes to make observations about mechanical advantage. Change other variables, such as number of or angle of "paddles", cups vs. spoons as "paddles".

Reflect

What did you learn? What was surprising, fun, curious? What new question(s) do you have?



21

LOOKING AHEAD!

Escambia County Schools 2018/2019 Year Calendar

August 2018						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September 2018						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

October 2018						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November 2018						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December 2018						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

180 Student Days

187 Teacher Days

Holiday (schools closed)

Sept 3 Labor Day

Nov 12 Veterans' Day

Nov 19-23 Thanksgiving Holidays

Dec 21- Jan 4 Christmas Holidays

Jan 21 Martin Luther King Day

March 25-29 Spring Break

April 19 Good Friday

Teacher Workday, No Students

Aug 3 Teacher Institute

Aug 6 Professional Development Day

Aug 7 Teacher Workday

Oct 11 Fall Conferences (1:30-6 PM)

Oct 12 Professional Development Day

Feb 7 Spring Conferences (1:30-6 PM)

Feb 8 Professional Development Day

May 24 Teacher Workday

Early Release (students)

* Oct 11 * Dec 20

* Feb 7 * May 23

End of Grading Periods

1st nine weeks: Oct 5 (42 days)

2nd nine weeks: Dec 20 (47 days)

3rd nine weeks: March 8 (43 days)

4th nine weeks: May 23 (48 days)

Progress Reports

* Sept 10 * Feb 6

* Nov 5 * April 15

Report Cards

Oct 10 1st nine weeks

Jan 9 2nd nine weeks

March 13 3rd nine weeks

May 23 4th nine weeks

High School Graduation

May 21 Escambia County HS

May 23 W.S. Neal HS

May 24 Flomaton HS

January 2019						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February 2019						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

March 2019						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

April 2019						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

May 2019						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

IMPORTANT NUMBERS

Emergency - 911

- After Hours Hotline for Utilities Emergencies1-251-446-4920
- FBI (Federal Bureau of Investigation)1-251-438-3674
- National Poison Control1-800-222-1222
- National Response Center1-800-424-8802
(To Report Terrorist Threats, chemical Spills, Etc.)
- Alabama Coalition Against Domestic Violence1-800-650-6522
- Alabama Forestry Commission1-800-392-5679
(To Report Fires and Obtain Burn Permits)
- Consumer Fraud1-800-392-5658
- Adult Abuse1-800-458-7214
- Adoption & Foster Inquiry1-866-425-5437
- Child Abuse & Neglect.....1-334-242-1310
- National Suicide Prevention Lifeline1-800-273-8255



Poarch Creek Indians Utilities Authority
5811 Jack Springs Road
Atmore, AL 36502