

# DROOP

activity  
book

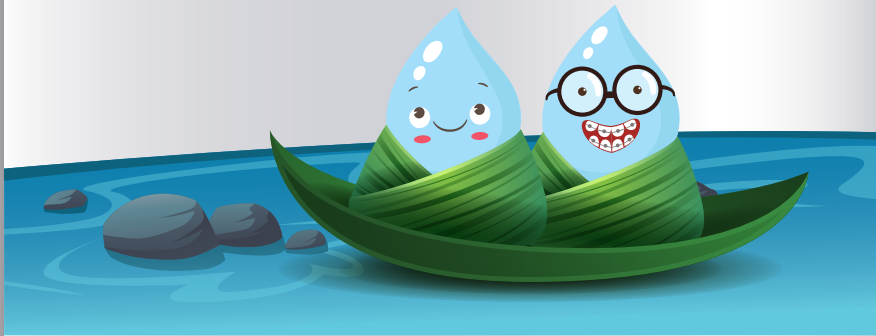


[H2GOKIDS.ORG](http://H2GOKIDS.ORG)

For Grades 4-6



Today was a lazy day on the Potomac River for Drip and Drop. After years of sailing the river, our pair of water adventurers thought they had seen it all. Narrowly missing the thirsty paws of a bear cub, getting tossed back and forth during thunderstorms and tickling the toes of people dipping their feet in the water were a few of their favorite exploits! But today was just a quiet day drifting on the water. The duo sat in their leaf boat, floating over gentle rapids and taking turns sharing dreams about their next watery adventure.



“You know what I have always wondered?” asked Drip, turning to face Drop. “How do people get the water they drink? I know they need water, but I have certainly never seen anyone bring a cup to the river!”

While Drip and Drop took a moment to consider the answer, neither noticed that the water was picking up speed. “Well,” Drop said, “I think people must have some kind of vacuum to collect water from the river! It would take a long time to scoop up all that water by hand.”

The two shared a laugh at that thought when, suddenly, their little boat zoomed toward a whirlpool! They spun round and round watching as a hole appeared in the water beneath them. Drip and Drop clasped hands, shouting “WAHOO!” as they dropped into a large pipe labeled “Drinking Water Treatment”. They were finally off on a new adventure to somewhere they had never been before, and they are taking YOU along!

# microorganism mosaic

Use the color key to fill in the mosaic and reveal one of the microorganisms listed below. These "bugs" help clean wastewater by eating the organic matter and chemicals in sewage. It's like a biological buffet!

## COLOR KEY

- 1  Navy Blue
- 2  Light Blue
- 3  Royal Blue





# a day without water

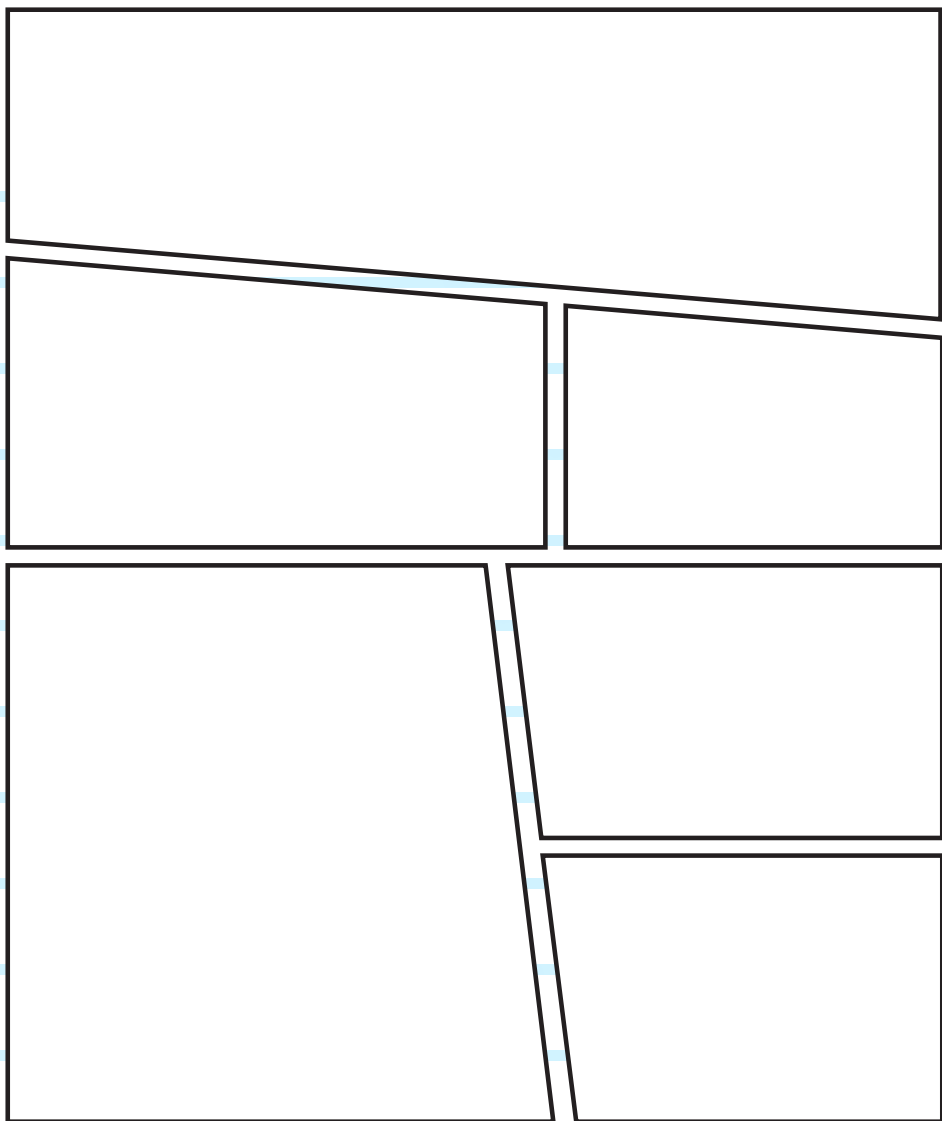
Write a  
paragraph  
& draw a  
comic!

What would your daily life be like  
without clean drinking water?



## Create your own comic!

Draw what you think an aquatic animal sees if it has to live in polluted water.



# meter math madness

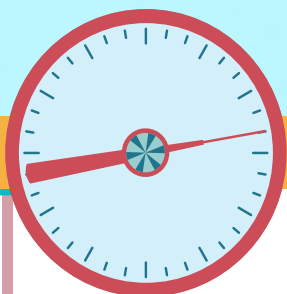
The Meterson family was shocked to learn how many gallons of water they used last month when they saw their water bill. To help them discover how they can use less water, the Metersons created a Weekly Water Use Journal.

Use the journal and the water usage guide to help them solve the mystery!

Activity	Number of Times	Gallons of water per use	Total Gallons
<input type="checkbox"/> Ran the dishwasher	10	6	<input type="text"/>
<input type="checkbox"/> Flushed the toilet	27	5	<input type="text"/>
<input type="checkbox"/> Washed our faces	14	4	<input type="text"/>
<input type="checkbox"/> Ran the sprinklers	4	1,020	<input type="text"/>
<input type="checkbox"/> Took showers	6	17	<input type="text"/>
<input type="checkbox"/> Used the washing machine	46	19	<input type="text"/>
<input type="checkbox"/> Cooked food	2	1	<input type="text"/>
<input type="checkbox"/> Filled our water bottles	6	2	<input type="text"/>



HOW MANY  
GALLONS OF  
WATER DID THEY  
USE THIS WEEK?



What are some ways  
the Metersons could  
use less water?

A large rectangular area with a light blue border and horizontal blue lines, designed for writing answers. The bottom right corner of the area is curled up, suggesting a page from a notebook.

# wastewater treatment crossword

## Down

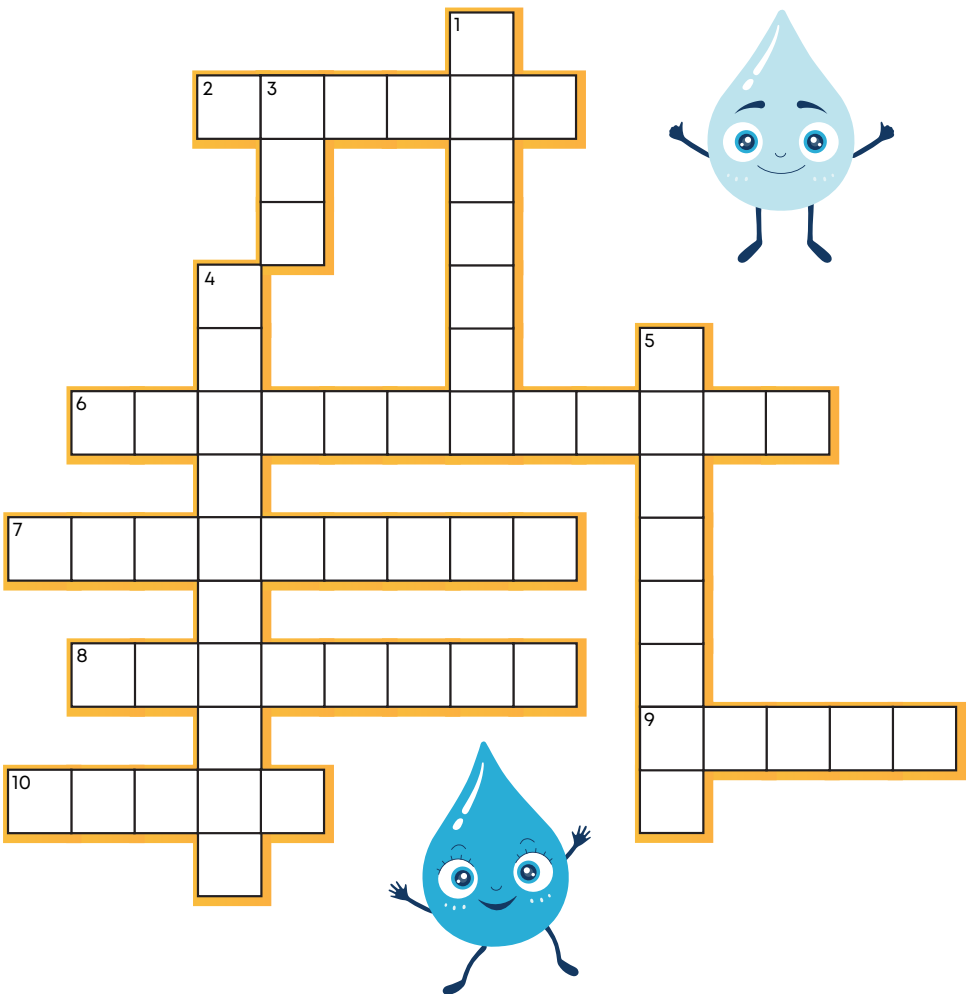
- 1 We can only use/ drink 1% of the world's water, so it is important to ... and reuse it
- 3 Fat, ... and grease should never go down the drain
- 4 The name of used or dirty water
- 5 The scientific name we use for "bugs" that clean the water



## Across

- 2 The name of the biggest wastewater treatment plant in Prince William County
- 6 How the Service Authority gets the germs out of the water
- 7 It is important to protect the water in your...
- 8 Where all the wipes and trash should go
- 9 The number of 8-ounce glasses you should drink in a day
- 10 Where the dirty water goes when it leaves your house

Use the clues here and in the rest of your activity book to fill in this wastewater crossword!



# water word search

Can you find all of the water and wastewater words?  
If you don't know what these words mean, do a little  
research and learn more about your water!



**COAGULATION**  
**AERATION**  
**RECLAMATION**  
**EFFLUENT**

**FILTRATION**  
**SEDIMENTATION**  
**AMMONIA**  
**AQUIFER**  
**DISINFECTION**

**MICROBIOLOGICAL**  
**CHLORINE**  
**WASTEWATER**  
**TURBIDITY**

# water wise

## Word Scramble

Unscramble the water-related words below to decode the hidden message!

cinsfetid 

romiebc 

aetnoira 

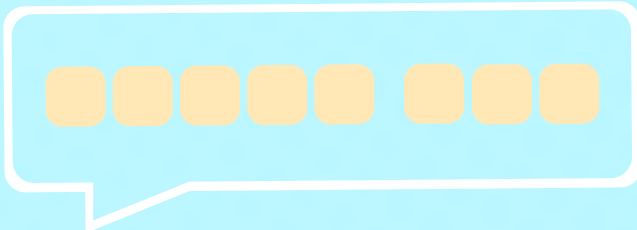
mnrenvtioen 

grinkdin 

medsient 

glutacaeo 

pisep 



# MOONEY mad lib

Use your wastewater knowledge and your imagination to complete this water treatment mad lib!

The Service Authority cleans more than nine billion gallons of wastewater each year at its H.L. Mooney Advanced Water Reclamation Facility, using a multi-step scientific process. Each step ensures the water is clean and

.  
*adjective*

**Step 1.** Screening: When the wastewater comes in, large screen are used to remove items like  ,  or  . These items can clog the machines and it is important to remove them first!

**Step 2.** Settling: A coagulant is added to the water to help the waste particles stick together and  in the tank. Chunks are formed and  in the tank before they are removed.

**Step 3.** Microbes: Tiny living things called microbes are added to help  any pollution in the water. These microbes eat until they are  and then  in the tanks.

**Step 4.** Filtration: The wastewater is passed through filters made of  and  to trap small  left in the water.

**Step 5.** Disinfection: The water goes through a  full of ultraviolet light to help  any germs that might be present in the water.

**Step 6.** Aeration: Now fully clean, the water is sent tumbling down a  to add oxygen back in as it flows into the  below.

# protect your pipes

Avoid the blockages in the sewer pipes below. Help your wastewater make its way to the H.L. Mooney Advanced Water Reclamation Facility, where it will be cleaned and returned to the environment!

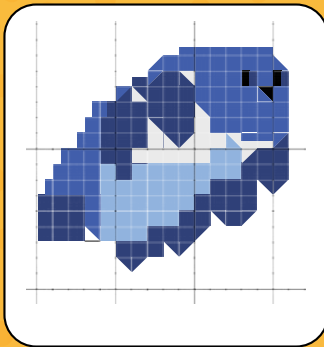


Fats, oils and grease should NEVER go down the drain! Things like wipes, food and cotton swabs can cause clogs in the pipes and should only be thrown away in the trash.

Start Here!



# answer keys



Activity	Number of Times	Gallons of water per-use	Total Gallons
✓ Ran the dishwasher	10	6	60
✓ Flushed the toilet	27	5	135
✓ Washed our faces	14	4	56
✓ Ran the sprinklers	4	1,020	4,080
✓ Took showers	6	17	102
✓ Used the washing machine	46	19	874
✓ Cooked food	2	1	2
✓ Filled our water bottles	6	2	12

HOW MANY GALLONS OF WATER DID THEY USE THIS WEEK?

**5,321**

