WaterDrops

Teacher's Guide

Water Conservation

Welcome to the water conservation issue of WaterDrops! *As part of the Splash! Water Resources Education program, the Southwest Florida Water Management District (SWFWMD) offers this water resources newsletter for elementary students. The newsletter is correlated to grades 3–5 of the Next Generation Sunshine State Standards and the Common Core State Standards and provides an interesting way for students to increase their awareness and respect for watersheds and the water resources within them. To help better prepare your students for testing, we have included* WaterDrops *Challenge, which contains items similar to those on the Florida Comprehensive Assessment Test (FCAT).*

This issue of WaterDrops *focuses on water conservation. It includes fiction, nonfiction, writing, drawing and problem-solving activities, games and websites to explore. We have also included a water conservation pledge for students to sign, which encourages them to make a commitment to saving water. Let* WaterDrops *make a splash in your classroom today!*

Many other free materials are available from the SWFWMD and can be ordered online at WaterMatters.org/publications/. *We also offer water resources workshops for teachers. Please contact us if you have any questions or suggestions about our water resources education programs.*

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Page 1 — Hello Readers!

Water plays an important role in our lives. Using water wisely is especially important to ensure we have enough clean and safe water in the future. Water conservation is about saving water. Ask students to describe in their own words what water conservation means to them. Then ask students to list several ways they could use less water on a regular basis. Stress how important it is that we all try to practice water-saving habits and encourage family, friends and neighbors to do so as well.

Page 1 — Water Drips & Drops

It's fun to learn facts about water. Discuss the story problem about taking shorter showers and solve it together. Students should discover that a 5-minute shower will use approximately 20 gallons of water, which is half the amount used during a 10-minute shower. For additional practice in problem solving, change the length of the shower time to 1 minute, 3 minutes and 15 minutes. Compute the amount of water used based on the different shower times and make a chart that includes all the information. Discuss the chart together and emphasize that taking shorter showers can save a lot of water. Students may even be encouraged to take shorter showers!

Pages 2 & 3 — Feature Story

Read the story together. Discuss the importance of water conservation at school. As a whole-group activity, ask students to describe what could make up a model water conservation program. Then ask students to complete the writing activity.

Page 4 — Take It Home

Prepare your students for the activities they will do at home. For the first activity, develop and display a chart similar to the one students will use and explain the steps they need to take in order to complete it. For the second activity, read aloud the directions for making a door knob sign. You may want to create a sample to show. Ask students to think of different messages that could be printed on their signs. Organize a contest for the most creative sign.

Page 4 — Ask Water Cycle Wanda

Ask students if they have ever heard about reclaimed water. Make sure they understand the concept of reclaimed water and discuss different places where reclaimed water may be used. Also discuss places where reclaimed water would not be used. Select two students to play the roles of Karen and Water Cycle Wanda. Ask the students to read their parts. Help students understand the connection between using reclaimed water and practicing water conservation habits.

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Page 5 — Water in Our World

Explain to students that a tip is a suggestion or words of advice that can be followed to make a situation better. As a whole class or in small groups, ask students to read the water conservation tips and the different descriptions of water wasters. Then ask students to write the number of the tip that would help each person become a water saver instead of a water waster. For an additional activity, ask students to develop other descriptions of water wasters and then give a suggestion using their own words that would help these water wasters become water savers.

Answers: **1, 2, 4**

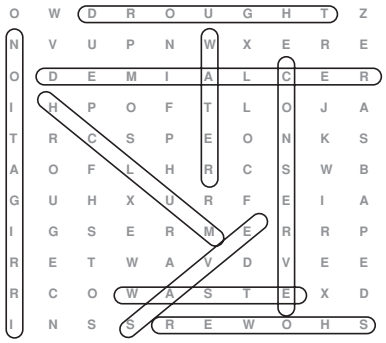
Page 6 — Water in Our World

Before reading the article, discuss the concept of Florida-Friendly Landscaping™ and why it is important. Ask students if they have ever seen any Florida-friendly areas. Display any pictures you may have of Florida-friendly areas and discuss them. Then read the article together and ask students to complete the sentences at the bottom of the page.

Fill in the Blank *Answer Key*: plants, mulch, save (conserve)

Page 7 — Games & Puzzles

Conservation Word Search
***Answer Key*: →**



Water Words *Answer Key*:
twera = water
acdalnsep = landscape
itionrragi = irrigation
thugrdo = drought
orwhes = shower
contiversona = conservation

Page 8 — What's Wet on the Web!

Surf the conservation area of the Southwest Florida Water Management District's website, *WaterMatters.org/conservation/*, for interesting topics about saving water. As an extended activity, ask students to prepare research questions about water conservation and search for answers online.

Page 8 — What's Wet on the Web!

Read the pledge together and ask students to sign it. As an extended activity, make a poster of the pledge, ask students to recite it and display it in the classroom.

WaterDrops Extended Activities

(See page 3 of this Teacher's Guide)

Number 1: *Drips and Drops*
Answers: (1) 4 gallons, 16 quarts; (2) 7½ pints or 3¾ quarts, 120 ounces; (3) 7½ quarts.

Number 2: *A Water-Saving Week*
Brainstorm with your students about several ways to save water.

Number 3: *Listen a Minute and Save Water!*
You may want to try this activity as a group first and use it as a model. Then have students develop their own announcements.

Number 4: *Problems and Solutions*
Emphasize how easy it is to break a water-wasting habit.

WaterDrops Challenge

(See page 7 of this Teacher's Guide)

Items included in the Challenge are similar to those presented on the Florida Comprehensive Assessment Test (FCAT). Make copies of the challenge and distribute them to students. Emphasize that taking the Challenge will provide good practice for preparing for the FCAT. Students should be allowed to use the *WaterDrops* issue if necessary.

Answers to multiple-choice items: **1-c, 2-b, 3-a, 4-c**

***Answers to extended-response items*:**
Question 1. Responses will vary. Student should be able to provide at least three ways a water waster's habits differ from a water saver's habits.

Score 2 points if . . . The student provided at least three ways a water waster's habits differ from a water saver's habits. The student's response was accurate and complete.

Score 1 point if . . . The student provided two ways a water waster's habits differ from a water saver's habits. The student's response includes information that is essentially correct, but the information is too general or too simplistic.

Score 0 points if . . . The response is inaccurate, confused and/or irrelevant.

Question 2. Responses will vary. Student should be able to demonstrate an understanding of how to develop a water conservation plan for his/her home and suggest several water-saving habits for his/her family to follow.

Score 2 points if . . . The response indicates the student has a thorough understanding of how to develop a water conservation plan for his/her home. The student has provided a response that is accurate and complete.

Score 1 point if . . . The response indicates the student has a partial understanding of how to develop a conservation plan for his/her home. The student has provided a response that includes information that is essentially correct, but the information is too general or too simplistic.

Score 0 points if . . . The response is inaccurate, confused and/or irrelevant.

WATERDROPS **Extended Activity Number 1**

Drips and Drops

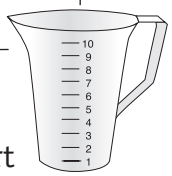
The tap water and bottled water we drink can come from many places. These sources may include lakes, rivers, streams, ponds, reservoirs, springs or aquifers. Water that contains a lot of minerals may taste different from your tap water at home. Distilled water, which has had the minerals removed, may taste different from your drinking fountain water at school.

We often don't realize how much water is wasted each day. In Water Drips & Drops, on the first page of the newsletter, you learned that the amount of water used for a person's shower can vary a lot. A longer shower will use more water than a short shower. This means taking shorter showers saves water. We should all try to find easy ways to save some of those drips and drops!

Use your math skills to solve the puzzles below. We have included a measurement chart to help you. When you finish, you will discover that all those drips and drops can add up in a hurry!

Measurement Chart

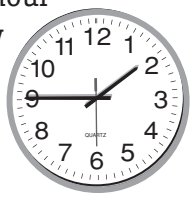
Liquids

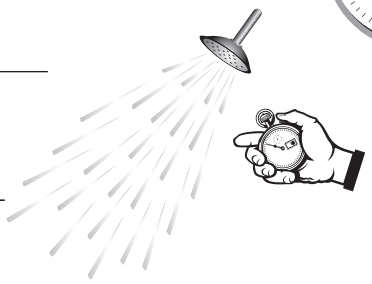


8 ounces = 1 cup
2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon

Time

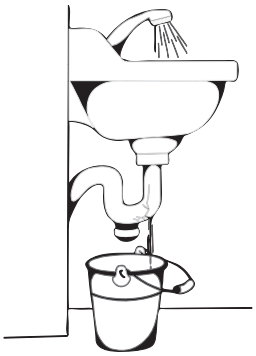
60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day





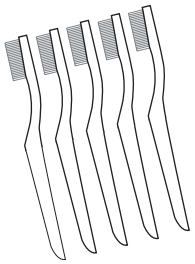
Puzzle #1

A 10-minute shower uses about 40 gallons of water.
How many gallons of water would be used for a quick, 60-second shower? ___
How many quarts does this equal? ____



Puzzle #2

A family discovered that the pipe under the faucet in the bathroom has a leak. It has been leaking water for three days. The plumber thinks 2½ pints of water have been leaking from the pipe every day. Fortunately, the plumber was able to fix the leaky pipe.
How much water leaked in 3 days? _____ pints or _____ quarts
How many ounces does this equal? _____



Puzzle #3

There are five people in Andy's family. Everyone forgets to turn off the water while brushing their teeth. Every time a person leaves the water running, about 24 ounces of water is wasted. If they brush their teeth two times every day, how much water is wasted by the end of each day? _____ quarts

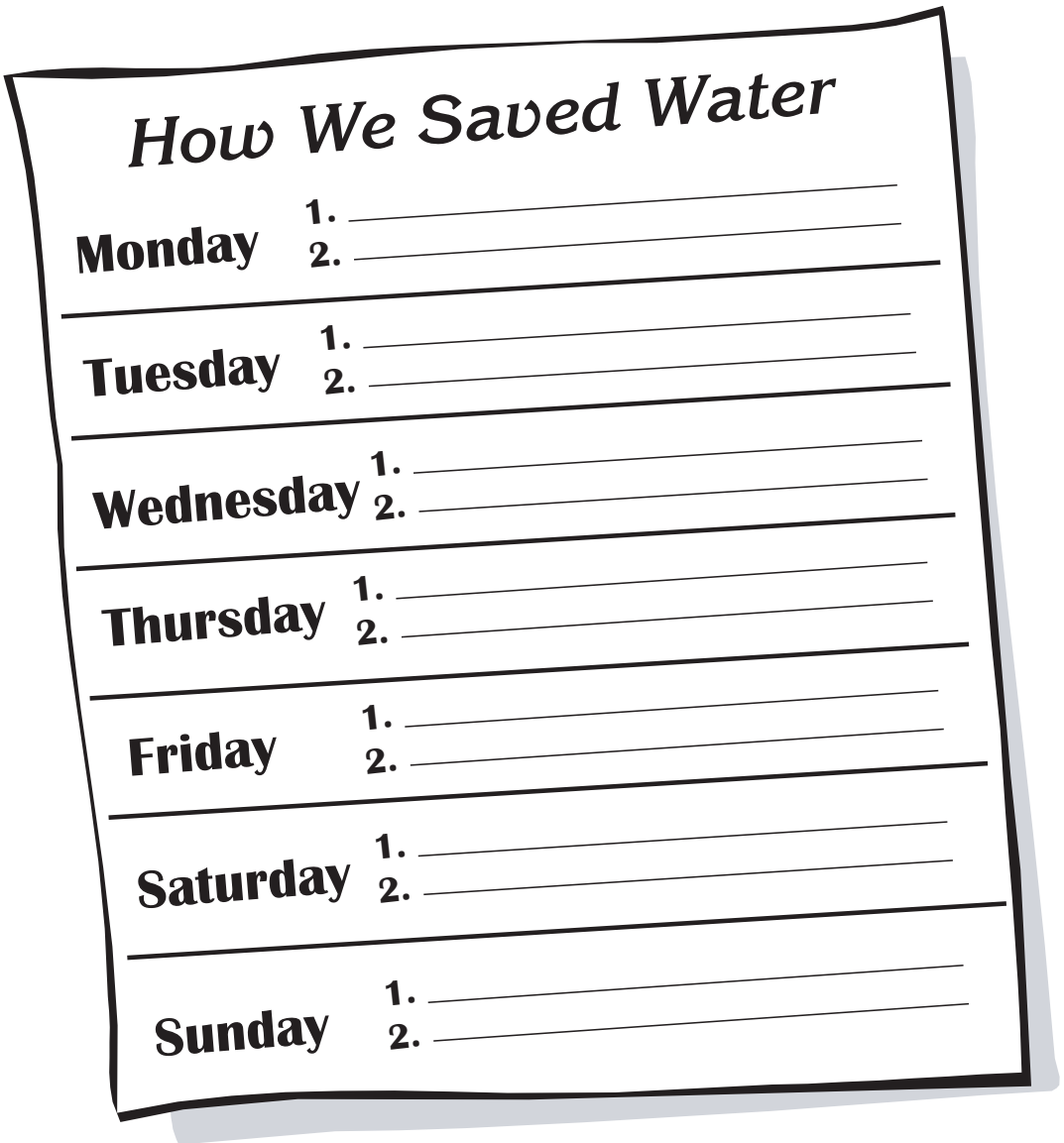
Extra Challenge

Create a puzzle of your own and ask a friend to solve it!

WATERDROPS **Extended Activity Number 2**

A Water-Saving Week

Often people don't realize how easy it is to save water. In this activity, you will help your family save water. Each day you will think about two ways that you and your family have made an effort to save a little water. Describe them on the weekly calendar below. At the end of seven days, review the list with your family. We think you will agree that saving water can be very easy!



Extra Challenge
Do this activity for an entire month!

WATERDROPS **Extended Activity Number 3**

Listen a Minute and Save Water!

You have learned how important it is for all of us to save water. Now it is time to spread the word! Pretend you have been asked to write a one-minute radio announcement for a local radio station. You will need to gather all your creative talents to get the message across about saving water. Remember, a minute goes by pretty fast, so choose your words wisely.

Use the outline below to help you develop the announcement. Jot down some notes in each section. Then write your script. Read your script aloud several times and improve it by making changes to it. When you have finished making all the changes, read it one more time and enjoy it!

What are the most important messages?

What are some details you want to include?

What do you want to say at the beginning of your announcement?

What do you want to say in the middle of your announcement?

What do you want to say at the end of your announcement?

Extra Challenge
Put together a radio show and have all your classmates read their announcements.

WATERDROPS **Extended Activity Number 4**

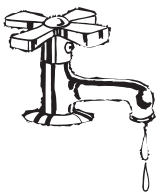
Problems and Solutions

Most problems have solutions. For every way that someone wastes water, we can probably suggest a way to save water. Here is your chance to show how much you care about water conservation.

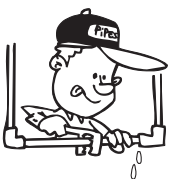
Begin the activity by reviewing page 5 of the newsletter. On the page, there are three examples of people wasting water. Also included are ways for people to save water. Think of other bad habits people may have that cause us to have less water. Then think of ways they could break those bad habits and become water savers instead of water wasters. Pick your best idea and describe it in the space below. You may even decide to draw a picture to go with it.

Always remember, it's better to save water than waste it!

Bad Water-Wasting Habit:
I know someone who . . .



Tip for Becoming a Water Saver:
A way to get rid of this bad habit is to . . .



WATERDROPS Challenge

Directions:

Let's see how much you have learned about water conservation. Do your best and meet the challenge!

Choose the best answer.

1. Try to encourage your friends and family to conserve water. What does the word "conserve" mean?

   a. buy
   b. use
   c. save
   d. waste

2. Reclaimed water is not to be used inside our homes, but it can be used safely in many other ways. Reclaimed water is useful in all of the following ways EXCEPT one. Which one does NOT belong in the list?

   a. irrigating parks
   b. washing dishes
   c. watering golf courses
   d. irrigating highway medians

3. Florida-Friendly Landscaping™ has become a very popular way of gardening. How is a Florida-friendly area different from a traditional garden?

   a. A Florida-friendly landscape area does not need as much water.
   b. A Florida-friendly landscape area needs to be irrigated more often.
   c. Florida-friendly landscape designers like to waste water.
   d. Florida-Friendly Landscaping™ principles encourage people to water areas daily.

4. There are many ways your family can conserve water at home. Which tip does NOT belong in the list?

   a. Don't overwater your lawn.
   b. Run only full loads in an automatic dishwasher.
   c. Use a hose instead of a broom to clean your driveway or sidewalk.
   d. Don't let the water run while washing your face or brushing your teeth.

WATERDROPS Challenge

1 READ THINK EXPLAIN

Describe at least three ways a water waster's habits are different from a water saver's habits. Support your answer with details and information you learned from ***WaterDrops***.

2 READ THINK EXPLAIN

It's time to take action on water conservation! Develop a water conservation plan for your home. Suggest several water-saving habits for your family to follow. Describe how you will know if your plan works.

Activities in ***Waterdrops Water Conservation*** address the following Common Core State Standards and Next Generation Sunshine State Standards for grades 3–5:

Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

College and Career Readiness Anchor Standards

Writing: Text Types and Purposes

W.CCR.3: Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Writing: Research to Build and Present Knowledge

W.CCR.7: Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

Writing: Range of Writing

W.CCR.10: Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two of tasks, purposes, and audiences).

Common Core State Standards for Mathematics

MP.1: Make sense of problems and persevere in solving them.

MP.8: Look for and express regularity in repeated reasoning.

Next Generation Sunshine State Standards for Science

SC.4.E.6.3: Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.

SC.4.E.6.6: Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy).