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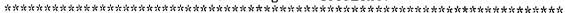
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#### **ABSTRACT**

To increase student's awareness of the need to conserve water and ways they can become personally involved in developing water-saving habits, a water conservation education program was established. The program described contains a series of activities to be presented in the form of discussions, games, and puzzles. Each activity involves the identification of water-saving actions, applying water conservation principles to everyday situations and developing methods to communicate conservation needs. (ZWH)

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# WISE WATER WAYS

#### **Teaching Guide**

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This outline is a guide. It is designed to be used in a loose-leaf binder. Pages can be added with local information, additional activities, or mind-jogging notes. Participants' interaction with the teacher/leader and each other, their knowledge, and their age range will have impact on method and length of presentation. The goal for this guide is to help the teacher/leader have fun with participants as they learn about the wise utilization of water.

Local water source and water usage figures should be available from local Water District offices.



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#### WISE WATER WAYS

#### A Water Conservation Education Program

RATIONALE: Water is a limited, finite resource in Nevada. With the continued increase in population, wise utilization of water is critically important. To insure adequate supplies now and for the future, we must be efficient in our use of water. All of us, and especially our young people, must understand our water supply is limited and develop an increased awareness of water-saving practices. Water conservation can become a part of everyone's life without greatly changing the way we live.

GOAL: To increase participants' awareness of the need to conserve water and ways they can become personally involved by developing water-saving habits.

TARGET AUDIENCE: Materials designed for youth 8 to 10 years of age.

APPROXIMATE LENGTH OF PROGRAM: The teaching narrative is designed as a series of three classes of 45 minutes each. This is a suggested time frame. The number and/or length of classes can be increased or decreased to meet the need of the leader or ability of the participants.

- OBJECTIVES: I. Participants will relate a limited, finite water supply to the need for water conservation.
  - 2. Participants will identify their personal water use.
  - 3. Participants will demonstrate increased conservation in their personal water use habits.

DELIVERY METHODS: Discussion, games, and puzzles that include identifying individual water-saving actions, applying water conservation principles to everyday situations and developing methods to communicate conservation needs.

EVALUATION: A suggested evaluation form is included.

#### REFERENCES:

Las Vegas Valley Water District American Water Works Association Journal, 1990 The Story of Drinking Water, American Water Works Association Conservation and The Water Cycle, Soil Conservation Service, USDA Water Wonders, National Wildlife Federation, 1984



#### CONTENT OUTLINE

#### Class 1

- Introduction and overview A.
- Pretest B.
- Wise Water Ways Activity Book C.

Read Water, Water Everywhere. Activity 1.

Overview of the water cycle.

Complete Our Dry Desert puzzles. Activity 2.

Reasons for a limited water supply in the desert.

Play Where Water is Used Inside the House D. Identification of how water is used indoors.

#### Class 2

Water, Water Everywhere Review A.

Optional Activity 1. Put Letter Cards together.

Optional Activity 2. Word Scramble and Crossword Puzzle.

Words to review conditions contributing to a limited water supply.

Wise Water Ways Activity Book B.

Activity 3. Using Water Wisely

Individual worksheets for participants to figure personal water

Wise Water Ways Game C.

Play Game.

Identification of wise and wasteful indoor water use habits.

Optional - Family Water Use Investigation D.

#### Class 3

Wise Water Ways Game Review A.

Color their own copy of Wise Water Ways Game. Activity 4.

Discussion of water use habits illustrated in the Water Game and share family water conservation rules and Family Water

Use Investigation worksheet and Family Water Use Chart, if used.

Using Water Wisely B.

Role play.

Situations to reinforce personal wise water use decision.

- C. Post Test
- Present Certificates D.



#### **EQUIPMENT AND MATERIALS NEEDED**

Attendance sheet
Name tags
Wise Water Ways Activity Booklets
Wise Water Ways game boards\*
Player markers
Dice
Empty one-gallon plastic milk or water jug
Flip chart/large sheet of paper/or blackboard

Masking tape
Washable markers
Pencils
Letter cards
Pretest & post test
Certificates

#### Optional materials:

Graph paper

\*Use game in center of Activity Book if you do not choose to construct larger game boards

#### Included in **Teaching Guide** Appendix:

Family Water Use Investigation worksheet
Patterns for name tags, letter cards and certificates
Answer sheet for puzzles and pre/post tests
Pattern for game board and player markers
One attendance sheet



#### WISE WATER WAYS

#### TEACHING NARRATIVE

This script is provided for the convenience of the teacher/leader.

#### First Class

Equipment and materials needed:

One attendance sheet with name of group and location completed

Markers

For each student:

Name tag, completed if possible Wise Water Ways Activity Book

Pencil

Pretest

#### A. Introduction and Overview of Activities

If participants do not know you, introduce yourself. If participants do not know each other, but you have been able to complete the name tags, have them introduce themselves as you hand out the tags. If you have not been able to complete the name tags, hand out the tags and a marker and have each participant fill out their tag. They can introduce themselves at this time. If everyone knows each other, this step will be omitted.

"Over the next few days we will learn some water facts. You will use this <u>Wise Water Ways Activity Book</u>. You will have your own book. Each day we will do some of the activities. I will collect the book at the end of each class and on (<u>date of last class</u>), you will get your book and a certificate to show you have completed the class.

Before we start, I am going to see how much you already know about where our water comes from and how you use that water. You may not know the answers to all of the questions. That's OK. You may not have really thought about how you use water. Think about it now. Don't worry about being right or wrong."

#### B. Administer Pretest

You may need to read the questions as the group completes the test.

#### C. Wise Water Ways Activity Book

Hand out Wise Water Ways Activity Book and ask children to put their name on the cover.

# Activity 1: Water, Water Everywhere.

"Our first activity will be from your book. Open your book to page 1. We will read Water, Water Everywhere aloud.

Has everyone found it?



Δ

Please raise your hand if you would like to read the first paragraph. Everyone follow along."

Continue reading. Remind participants to raise their hand to volunteer to read each succeeding paragraph. Discuss information. The following are some suggested questions to ask.

"Who can remember what we called that special cycle?

(A. The water cycle.)

What happens to the water in that cycle?

(A. Water evaporates from the earth, becomes water vapor in the atmosphere, forms clouds, and returns to earth as rain, snow, or sleet.)

Is all of the water we have ever had still on earth right now?

(A. Yes.)

Can water be cleaned and used again and again?

(A. Yes.)

Who can tell us how nature cleans water after it is used?

(A. Nature cleans water through evaporation. It leaves the dirt and other things behind.)

Nature's way of cleaning takes a long while. That's why we have to have water treatment facilities. They clean the water much faster than nature does it.

The amount of water we have to use depends on where we live. Some places have a lot of rain and snow, others just a little. We live on a desert. Do we have a lot or a little water on the desert?

(A. A little.)"

# Activity 2: Our Dry Desert

"Let's turn to page 2 in your <u>Activity Book</u>. <u>Our Dry Desert</u> puzzles will answer the question of why our desert is dry."

If participants need pencils, ask one of the participants to hand them out for you.

"The puzzles are solved by using the secret code wheel. Let's look at the wheel at the bottom of the page. Each letter has a corresponding number. In the puzzle each blank has a number under it. Find the letter that matches that number and fill in the blank. The first number is 23. That number goes with D on the wheel. See the D in the first blank? Look for all of the blanks with the number 23 under them. Fill in those blanks with a D. Now go back and find the next number. Continue to do that until you have completed the puzzle.



Are there any questions? If you need help, please raise your hand. When you finish page 2, you can turn to page 3 and complete that puzzle. When everyone has completed the first puzzle, we will stop and read it."

When everyone has completed page 2, ask who would like to volunteer, by raising their hand, to read. Select a different person to read each sentence. You may want to let those who have completed page 3 read those sentences too.

"In the southern Nevada desert we get less than five inches of rain a year. We live in a hot desert and we get a limited amount of rain.

If you remember, in <u>Water, Water Everywhere</u> we learned that we get water from snow in the mountains and rain in the desert. Some of the rain and snow soaks into the ground. This water is called ground water. People drill wells into the ground to get this water. Some water will run off into streams and lakes. People also use this fresh water."

(For use in other locations, insert water source information here.)

"In Las Vegas we used to get all of our water from wells. Henderson and Boulder City got their water from Lake Mead.

As Las Vegas grew, people needed more water. To meet this need, water was brought to Las Vegas from Lake Mead too. Now all of Las Vegas and North Las Vegas get water from Lake Mead. The water that fills Lake Mead comes from the Colorado River. The Colorado River water must be shared with seven states and Mexico. We can't use all of the water we may want from the lake. Others need water too.

Right now there is plenty of water for all of our needs, but -- could we ever run out of water?

(A. Yes.

a. with increased population growth

b. with increased wasteful use of water with the present population

c. with several years of lower than normal rainfall [drought])

If we did, what could happen?

(A. Possible Answers - People would not have water for daily use such as brushing teeth, washing clothes, etc. Golf courses, swimming pools, water play parks and other places that use large amounts of water might not be built or might be closed. New homes might not be built.)"

NOTE: Participants may respond in more detail. Try not to limit their responses. Be sure everyone has an opportunity to contribute. You may want to record answers for reference. These responses could be made into a bulletin board of quotes. Youth might like to make a display if space is available.



"We have looked at some problems that could occur if we didn't have enough water. Now let's think about where water is used inside our homes."

#### D. Where Water is Used Inside the House

"Most homes have one kitchen, living room, family room, dining room or area, laundry, and maybe several bathrooms and bedrooms."

Use an unused name tag or other small object that can be passed from person to person for this part of the activity. Have children sit in chairs or on the floor in a circle. They need to be close enough to comfortably pass the object from one person to another.

"I want you to pass this (object) from one person to the next until I say stop. The next person will name a way water can be used in a room in the house. An example would be the bathroom taking a shower. Then we will continue passing the (object) around until I say stop again, and the next person has to name another room and give a water use that might take place there. You can't use the same room the last person used or repeat their water use. If one person had used 'bathroom' and 'take a shower,' you would have to name another room and another water use. Got it? Now, who can tell me how you could use water in the bedroom?

(A. Drinking coffee, hot cocoa, washing the windows, etc.)

Very good! Now let's play!"

Play until everyone has had an opportunity to name one way water is used in the home.

Children can complete the class sitting in the circle. Finish class with a brief review and preview of next class.

"We live in a desert. Deserts do not have much rainfall. Our desert is windy and hot. That heat and wind cause water to evaporate very quickly. You might describe our desert as a place where high evaporation is caused by hot, windy weather and little rainfall.

Because we live in a dry desert, we have to think about our water supply. We have to be careful of how much water we use and not be wasteful. Most of our water comes from Lake Mead. But we have to share that water with other states and Mexico. We cannot take all of the water that we want. We can also get water from wells in the ground. But we can't use more water from the ground than can be replaced by rainfall.

On the desert we have a limited supply of water. We must not waste the water we have. We must learn to use what we have wisely.

Everything needs water. Plants, animals, fish, reptiles and wildlife all share our water supply. People use water to wash their hands, brush their teeth, flush the toilet, and take a shower or bath. Did

you ever wonder how much water you use each day? Tomorrow we are going to see how much water you could save just by doing the things you do daily differently.

Hand in your <u>Activity Books</u> and the pencil: I gave you so we will have them for our next meeting."

If participants have name tags that are reusable, ask them to hand them in also. Remind them about the next class date and time.

Dismiss class.

Remember that certificates need to be completed before last class.

#### WISE WATER WAYS

#### TEACHING NARRATIVE Second Class

#### Equipment and materials needed:

Letter cards
Wise Water Ways Activity Books
Pencil for each student
Empty one-gallon plastic milk or water jug
Wise Water Ways game boards
Dice
Player markers
Name tags
Masking tape
Optional: Family Water Use Investigation worksheets

Take attendance and hand out name tags.

#### A. Water, Water Everywhere Review

Hand out Activity Books.

"Let's review some of the things we learned in our last class.

Nature never wastes a drop of water. Remember the journey water takes? Who can tell us what happens to water on the earth?

(A. Water evaporates from the earth into the atmosphere as water vapor; there it forms clouds, then falls back to earth as precipitation -- rain, snow, hail and sleet.)

What name did we give this journey?

(A. The water cycle.)

What happens to the water that falls to earth?

(A. It can soak into the ground to be used by people, animals, plants and trees; become ground water; run off into lakes, streams and rivers; or fall into the ocean.)

Name two places we could get water to use in our homes.

(A. From ground water. People may have wells in their backyard and the Water District has big wells to supply water to people. Water also comes from lakes and reservoirs, like Lake Mead. Reservoirs are lakes formed by manmade dams.)"

Use Optional Activity 1 for groups with less than ten participants and Optional Activity 2 for groups of more than ten participants.



Optional Activity 1: Letter Cards

'When we were learning about the desert, we used some words to describe the desert. Can you remember what they were?

(A. Hot, Windy, Dry, Limited Rainfall, High Evaporation.)

Here are some letters. When they are put together properly, they will spell out those words. I want you to work cooperatively to find the letters that will make these words. Let's sit in a circle on the floor."

Have children form the circle. When they are seated, place the letters in the center of the circle. Encourage discussion as children find letters and try to put them together to spell the following words: HOT - WINDY - DRY - LIMITED - RAINFALL - HIGH - EVAPORATION. Ask them to explain why the desert is hot, windy and dry. Help them see that LIMITED and RAINFALL would be a good description together, and HIGH and EVAPORATION would also be a good description. When they complete the words, have them put them up with tape or place on a table or another spot on the floor.

Optional Activity 2: Word Scramble and Crossword Puzzle in Wise Water Ways Activity Book

If there are more than ten participants, individual work may be best. Use the <u>Word Scramble</u> for younger participants; older children may also want to complete the <u>Crossword Puzzle</u>. Several children may wish to work together. As long as they remain on task, this is fine.

"In our last class, we learned about water and the desert. We learned about some words that describe the desert. Can you remember what they were?

(A. Hot, Windy, Dry, Limited Rainfall, High Evaporation.)

In your <u>Activity Book</u>, there is a <u>Word Scramble</u> on page 4. You may want to work with a friend to solve this scrambled word puzzle. If you need help, you can find these words in the <u>Our Dry Desert Secret Code Puzzle</u>. If you solve the <u>Word Scramble before others have finished</u>, you may want to do the <u>Crossword Puzzle</u> on page 5. <u>Water, Water Everywhere</u> on page 1 will help you find the words to answer the <u>Crossword Puzzle</u>. If you have problems, raise your hand."

As soon as everyone has completed the Word Scramble, stop group's work and continue.

"What do these words tell us?

(A. It is hot and windy and there is limited rainfall and high evaporation. It is dry. Dry places are called deserts. We live in a desert.)"



#### B. Wise Water Ways Activity Books

#### Activity 3: Using Water Wisely

Use a gallon plastic water or milk jug as an example to show participants the size of the jugs in the pictures.

"We have been talking about the limited amount of water we have to use. Do you think that you can make a difference in the amount of water that is used in your community?

Turn to page 6 in your book. This worksheet is about washing hands and brushing teeth. If you let the water run while you brush your teeth or wash your hands, you can use more than two gallons of water each time. On this page we are going to find out how much water you could use in one day if you let water run when you brush your teeth or wash your hands.

At the bottom of the page are pictures of gallon jugs. There are two gallon jugs in each set.

This is a gallon jug."

Show the plastic jug.

"How many times a day do you brush your teeth? How about washing your hands?

#### (A. Answers will vary. Let several children answer.)

Choose one activity -- either washing your hands or brushing your teeth. Put a check mark above the picture of the activity you selected. For each time you wash your hands or brush your teeth in one day, put an X mark on one set of jugs. Count the number of X's. In the work space, put that number in the blank beside the sentence, 'Number of times washed hands or brushed teeth.' The number of times you brush or wash in one day, multiplied by 2 in the space beside 'Number of gallons of water used each time' (times 2), will give you the number of gallons that you could use in one day for this one activity. Write your answer in the space beside the place that says 'Number of gallons used in one day.'

Now turn to page 7. Choose the same activity on this page as you did on page 6. In this activity, water is saved by turning off the water while you scrub your hands or brush your teeth.

If you wet your hands or your toothbrush, turn off the water and scrub or brush, and then turn on the water to rinse your hands or your toothbrush, you could save about one gallon of water.

To figure the amount of water you can save, write the amount of water you used per day from the bottom line in the work space on page 6 on the top line of the work space below.

Each jug on this page represents one gallon of water.



Look on page 6. Find the number you wrote beside 'Number of times washed hands or brushed teeth' and copy it in the space below the picture of the jugs on page 7. Now put an X mark on that same number of jugs. Count the number of X marks and this is the number of gallons of water used in one day. Put that figure on line 2 of the work space.

Now subtract, or take away, this number from the top number to see how much water you would save by turning off the water."

Let several children share their answers.

"Now you need to make another decision. Look at pages 8 and 9. How much water do you use to take a shower or a bath? You need to decide which page you want to use to figure this next problem.

If you like to take showers, you will choose page 8; if you prefer a bath, turn to page 9.

Those of you who are math whizzes might want to do both pages.

Whether you choose to figure page 8 or 9, the method is the same. Find the number that tells you the amount of water a person would use if they were not aware of the need for water conservation, and then the amount that could be saved if they were aware of the need to conserve water. Of course, the actual amount of water used will depend on the type of faucets you have and the size of your bathtub. But these amounts will give you an idea of how much you can save. The figures may be different at your house.

No matter whether you choose page 8 or 9, the way to work the problem is the same. So let's start with page 8 and then go to 9 for those who choose that page.

Many showers use from five to eight gallons of water for each minute they run. A shower eight minutes long could use 40 to 64 gallons of water. How many times do you take a shower in one week? If you shower for eight minutes and your shower runs eight gallons of water a minute, you could use 64 gallons each time you shower.

In the work space on page 8, find how much water you could save by reducing your showering time by one-half. Work the first problem. When you get that answer, find how much water you could save in a week. Write the number of times you shower beside the sentence, 'Number of showers I take each week.' This number multiplied by 32, the amount saved by cutting shower time in half, equals the amount saved.

Now for those who chose page 9. If you fill the bathtub full, you could use 30 to 50 gallons of water, depending on the size of the tub. Follow the same directions as for finding the amount saved in showering on page 8. After you find the amount of water saved by working the first problem, find your individual savings. Think



of how many times you might take a bath in one week. Write that number in the work space beside 'Number of baths each week.' Multiply that number by the amount saved by filling the tub half full to find your weekly water savings."

Allow time for children to complete their calculations before continuing. When children have completed their calculations, ask if some would like to share their figures.

"Raise your hand if you would like to share how much you can save."

Tell participants that this is an example. It shows how much each of us can save by just making a few changes in how we use water.

Option: The following part of the activity book may be left for participants to complete at home. Briefly explain directions.

"How do you get cool water to drink? From the faucet or out of the refrigerator?

(A. Children may have other answers.)

We can waste water if we turn on the cold water faucet for a drink of water and let it run until the water gets really cold. Look at page 10. Letting water run from a faucet to get a cold drink can waste a lot of water. Think of how many drinks you get in one day. If you run water to get it cool for every glass of water you drink, how much water would you waste in one day? It would be very difficult to figure the amount wasted. But when water runs down the drain, we waste it.

Can you think of ways to save that water? Draw your picture in the square at the bottom of the page. You can draw a picture to show how to get a cool drink so you will not waste any water."

Examples participants might draw include a water container in the refrigerator, a water dispenser, ice in a glass of water, etc.

If they complete this part of assignment in class, give children a few minutes to finish. The last two activities are to be completed after classes are finished.

"The last two <u>Using Water Wisely</u> worksheets are for you to complete after you take your <u>Activity Book</u> home. Page 11 tells you about dripping faucets. A slow drip can waste 15 gallons a day. When you get home, you can see if you have any dripping faucets. The sheet gives you some information so you can figure how much water might be wasted in one day from each faucet. Do you flush face tissue and gum down the toilet? It can take about five gallons of water every time you flush the toilet. What should you use instead of the toilet for getting rid of trash?

(A. A trash can.)

On page 12, draw a trash can in the picture to remind you that you shouldn't use the toilet as a trash container.



Page 13 gives you some water trivia. These facts are important. Share them with your friends and family.

Page 14 is a <u>Family Water Use Chart</u> to use with an activity we may do later.

The back page of your book is for you to draw your own <u>Water Wise Poster</u>. As you can see, you will have several activities you can finish at home. We want you to continue learning about water after this class is over. Working on your book at home can help you and your family learn more about water conservation. Now please hand in your <u>Activity Book</u> before we play our game."

Pick up Activity Books before continuing with class.

For other communities, obtain use information from local water supplier. Calculate comparison and approximate amount your community's daily water usage average is over the national average. If your community water use is at or below national average, calculate 25% of current use. If we assume that indoor and outdoor water use approximately the same, 50% each, we could save as much as half of the indoor water use by changing our water use habits. That would be one-fourth or 25% of total water use. That is an estimate of how much could be saved if individuals would change water use habits inside the home.

"The Las Vegas Valley Water District says that each Las Vegan uses about 197 gallons of water every day. The average in the rest of the country is 165 gallons a day. That means that in Las Vegas we use 32 gallons more water for each person every day than the national average. If each person only used 165 gallons, we would save 32 gallons per person each day. That would be about 11,680 gallons a year per person. If a swimming pool holds 24,000 gallons of water, that would be almost enough water to fill a pool one-half full.

A person's body only needs two quarts of water a day to live. What are some other ways we use water?

(A. Washing laundry, cooking, cleaning, bathing, landscapes and recreational activities.)

The easiest and cheapest way to get more water is to conserve it. Let's play a game to help us find different ways we can conserve water."

# C. Wise Water Ways Game

(Make your own game boards from the pattern in the teacher's appendix or use the game board in the Activity Book.)

The game boards, designed for four players to each board, provide a "fun" way to identify wise and wasteful indoor water use habits. Place game boards far enough apart so players can stand around each board. Put one dice on each board. Explain the game before forming the teams to play the game.



We can see that by changing our water use habits a little, we could save a lot of water. The game we are going to play will help us identify some more habits and how we can change our habits to decrease our water use.

First we are going to form teams."

Teams can be formed by numbering off, 1-2-3-etc., for the number of game boards, and letting all 1's play on one board, all 2's on another, etc., or in any way leader desires. Each player needs a marker. Markers are numbered. Let each player draw a numbered marker from an envelope so selection is random. Each board should have three to four players.

"The player markers are numbered. The lowest number will start the game. Each player will place their marker on the "START" space. You will throw the dice to determine how many spaces to move. When you move your marker to the space, you must read the water use habit and "move" directions. Penalties, (Move back --- ) are assessed for wasteful water use and bonuses (Move ahead ---) for wise water use. Before you move, you need to give the reason for the particular move. An example for the first space might be that you saved water because you reduced the number of minutes you stayed in the shower. You will complete the game when you land on or cross over the last square. Are there any questions?"

### GAME OUTLINE (For the teacher/leader's information)

- 1 START using water wisely.
- 2 TOOK A SHORT SHOWER Move ahead 2 spaces and wait for your next turn. I could have saved 20 gallons of water.
- 3 LET THE WATER RUN WHILE BRUSHING TEETH Move back 1 space and wait for your next turn. I may have wasted more than 2 gallons of water.
- 4 TURNED OFF THE FAUCET TIGHTLY Move ahead 1 space and wait for your next turn.
- 5 FLUSHED A GUM WRAPPER DOWN THE TOILET Move back 1 space and wait for your next turn. I wasted 5 gallons of water.
- 6 TURNED THE WATER OFF WHILE BRUSHING TEETH Move ahead 1 space and wait for your next turn. I may have saved more than 2 gallons of water.
- 7 LET THE WATER RUN WHILE SCRUBBING HANDS Move back 1 space and wait for your next turn.
- 8 WASHED HAIR IN THE SHOWER AND LEFT THE WATER RUNNING Move back 2 spaces and wait for your next turn.
- 9 FILLED THE WASHER TO WASH 1 PAIR OF BLUE JEANS Move back 2 spaces and wait for your next turn.

- TURNED OFF THE WATER WHILE SCRUBBING HANDS -10 -Move ahead 1 space and wait for your next turn. I may have saved more than 2 gallons of water. TURNED OFF THE SHOWER WHILE WASHING HAIR -11 -Move ahead 2 spaces and wait for your next turn. USED THE DISHWASHER TO WASH 1 CUP AND PLATE -12 -Move back 2 spaces and wait for your next turn. I wasted 15 gallons of water. PUT WATER IN A PITCHER IN THE REFRIGERATOR 13 -FOR COLD DRINKS - Move ahead 2 spaces and wait for your next turn. HAD WATER BALLOON FIGHT - Wait for your next turn. 14 -CHECKED THE CLOTHES HAMPER FOR CLOTHES TO 15 -MAKE A FULL LOAD IN THE WASHER - Move ahead 2 spaces and wait for your next turn. How much water did I
  - 16 LEFT THE WATER RUNNING TO COOL IT OFF FOR A DRINK Move back 1 space and wait for your next turn.
  - 17 TALKED TO FAMILY ABOUT SAVING WATER Move ahead 1 space.
  - 18 CONGRATULATIONS! REMEMBER TO USE WATER WISELY.

Play the game until the end of class or continue with optional activity.

# D. Optional: Family Water Use Investigation Worksheet

save?

This worksheet is in the teacher packet. A <u>Family Water Use Chart</u> is in the <u>Activity Book</u>. (If this optional sheet is not used during class, it can be handed out at the end of the class for participants to complete at home.) Hand out the worksheet as you explain how to complete it.

"When scientists study something like how people use water, they may need to do some research. They may ask people questions, send them questions in the mail, or observe them. You can use My Family's Water Use Investigation worksheet to research your family's water use. When we do research, it is very important that we keep the information we put together confidential. Confidential means keeping something secret. But when you do research, you will want to tell people what you found out. To do this, we will give each person in your family a number. When you report, you will use that number instead of the name of the family member. We call this a code. Let's read through My Family's Water Use Investigation and look at the Chart in your Activity Book. After we finish reading, I will answer questions."



If participants are younger, it may be helpful to read through the <u>Investigation</u> worksheet aloud. Be sure that everyone knows how to complete the <u>Investigation</u> and the <u>Family Water Use Chart</u>.

"Take the <u>Investigation</u> worksheet home tonight. You will need to complete your research before the next class. We will complete the chart later. You need to bring this <u>Investigation</u> worksheet back for the next class because we will use it then. Be sure to give each member of your family a code number so you can use that number when you report at the next meeting.

Our next class will be our last one. You will make your own game during class. You will also get a certificate for completing this class."

Remind participants of the date and time for the next class.

If participants have name tags that are reusable, collect them. Dismiss class.

### ADVANCE PREPARATION FOR CLASS THREE

FIGURES TO USE FOR DISCUSSION ON LAST DAY. Using the figures from the "Hands/Teeth" page that each student completed in the <u>Using Water Wisely</u> page of their <u>Activity Book</u>, calculate savings for class for one day and one year. Compare amount saved for one year to the amount of water used to fill an average size swimming pool, about 24,000 gallons of water, or use measurements for a classroom 30 feet wide and 40 feet long, about 72,000 gallons of water. Use a flip chart, large sheet of paper or blackboard to display figures when you review the <u>Game</u> and discuss <u>Using Water Wisely</u>.

Fill out certificates.



#### WISE WATER WAYS TEACHING NARRATIVE Third Class

Equipment and Materials Needed:

Wise Water Ways Activity Books

Name tags

Markers

Flip chart, large sheet of paper or blackboard with water saving figures from day

before

Masking tape

Certificates

Take attendance.

Hand out name tags and Activity Book.

### A. Optional - Family Water Use Investigation Worksheet

Conduct discussion on what participants found out. Have participants save worksheets for discussion at end of class.

#### B. Game Review

Lead discussion while children work on their game.

'Yesterday we played the <u>Wise Water Ways Game</u> in class. Today you are going to make your own game. In the center of your <u>Wise Water Ways Activity Book</u>, you will find the game outline. You may add some pictures to help you remember what you can do to save water.

In the <u>Wise Water Ways Game</u> we had bonus moves when we landed on certain water use practices. What were some of those practices?

(A. Taking shorter showers, turning off faucets, using the trash can instead of the toilet for trash, turning the water off when brushing teeth or scrubbing hands, washing full loads of laundry, turning the shower off while washing your hair, putting water in the refrigerator for cold drinks, and telling your family about using water wisely.)

In some of the spaces, happy or sad faces tell you if that water practice is wise or wasteful. You can also see there are sentences to tell how much water may be saved or wasted. Continue filling in each space with your ideas and a happy or sad face or other picture to show wise or wasteful practices. Be sure to sign your game when you finish.

While you work on your game, I'm going to talk about some interesting facts I've learned.



If you remember your <u>Using Water Wisely</u> worksheets, you figured how much water you saved by turning off the faucet when you washed your hands or brushed your teeth. I have compiled some figures from your books and you might be surprised. Adding each of your savings together, you can save (<u>number of gallons saved</u>) gallons of water a day. If we multiply that by 365, the number of days in a year, you can save (<u>number</u>) gallons of water. That is a lot of water. So you can see what each of you do does make a big difference when we add each individual's savings together.

Just to give you a comparison, it takes about 24,000 gallons of water to fill an average sized swimming pool. (Amount of water saved by group may be more or less than that needed to fill a pool, but let children figure the relationship.)"

Guide discussion into Using Water Wisely.

#### C. Using Water Wisely

"We have talked about using water wisely. If we are going to make a difference in the amount of water we use, we need to make an effort to conserve water daily. You and your family may be doing some things already. Some of these may seem too difficult for you to do. Sometimes others may not understand how important just turning off the water or putting water in the refrigerator can be. They may think that the little amount of water saved won't add up to very much. But we have seen just how much that can amount to and we know that together we can make a difference.

Look back at your <u>Family Water Use Investigation</u> worksheet. Which family members do you need to work with on ways to save water? Let's look at just what you learned in your research. Don't tell us the names of your family members. Use your code numbers."

Ask each child to share some of the information (time each member stayed in the shower, how many family members turned off the water while brushing their teeth, etc.). How involved and how much information participants share will depend on time and interest of leader/teacher and participants. Be sure that you do share some of the information gathered by children.

"On page 13 of your <u>Activity Book</u>, you will find a <u>Family Water Use Chad</u>. You may need someone in your family to help you fill out that chart. If someone in your family helps you, keep the names secret. Just use the numbers.

On the <u>Using Water Wisely</u> pages of your <u>Activity Book</u>, you found out just how much water could be saved. But let's suppose that you go home with all of these ideas and your brother or sister won't listen to them? How could you handle that?

What could you tell them? What could you do?

Do you have any ideas about how you could get others in your family interested in conserving water?"



This part of the program helps children develop positive attitudes toward water conservation. It is important for them to understand that they may not find everyone, children or adults, interested in saving water. But just because someone else isn't enthusiastic, they should remember that actions speak louder than words and they can teach by example. Let children provide ideas. Discuss each idea. Actions should be positive in nature. Some ideas may include setting an example, putting reminders up by the sink in bathrooms, filling a jar or pitcher with water and putting it in the refrigerator, and practicing the other wise water use habits that have been discussed. Encourage them to remember the facts they have learned and share their Activity Book with other family members. Let children express themselves and you can reinforce positive ideas. They can be a leader in conservation by doing the things they have learned.

Limit discussion only if it will continue past class time. Keep enough time to administer post test and present certificates.

#### D. Administer Post Test

You may want to read the questions as the group completes the test.

#### E. Present Certificates

Follow-up:

Complete attendance record and record pre and post test scores.

Return the record sheet to:

Wise Water Ways University of Nevada Cooperative Extension S.T. & P. Building, Suite 207 953 E. Sahara Las Vegas, NV 89104

The University of Nevada Cooperative Extension needs this information to determine the effectiveness of these educational materials. Results will help determine continued funding for these materials.



# University of Nevada Cooperative Extension

# WISE WATER WAYS

# TEACHING GUIDE

**APPENDIX** 

# WISE WATER WAYS MY NAME IS

# WISE WATER WAYS MY NAME IS

WISE WATER WAYS MY NAME IS

WISE WATER WAYS MY NAME IS

WISE WATER WAYS
MY NAME IS

WISE WATER WAYS
MY NAME IS

WISE WATER WAYS MY NAME IS

WISE WATER WAYS
MY NAME IS



# WISE WATER WAYS ANSWER SHEET

#### PRETEST/POST TEST ANSWERS

- 1. a, c, d, and f.
- 2. Lake Mead and/or the ground.
- 3. a.
- 4. Any of the following is acceptable: b, c, or d.
- 5.A. b.
- 5.B. a.
- 6. Any of the following is acceptable: a, c, or d.
- 7. Any answer that includes the concept that we live in a desert and have a limited amount of water available.
- 8. b.

#### **ACTIVITY BOOK PUZZLE ANSWERS**

#### "Our Dry Desert" Secret Code Puzzle

Deserts are <u>DRY</u>. Scientists say <u>DESERTS</u> are areas that get <u>LESS</u>

than 10 inches of RAINFALL a year.

The YEARLY evaporation rate is usually HIGHER than the yearly RAINFALL.

All deserts are NOT the same. They are not all HOT and SANDY.

But  $\underline{ALL}$  deserts have  $\underline{LIMITED}$  rainfall. That limited rainfall may result in a  $\underline{LIMITED}$  water supply.

All living things NEED water.

WISE use of WATER is important for everyone.

"Could There Be A Limited Supply of Water?" Secret Code Puzzle.

WE HAVE LOTS OF SUNSHINE.

STRONG WINDS BLOW.





#### TEMPERATURES ARE HIGH.

#### WATER EVAPORATES.

# THE RAINFALL WE GET MAY NOT REPLACE THE WATER WE USE.

#### YES!

## "Our Dry Desert" Word Scramble.

HOT
WINDY
DRY
LIMITED
RAINFALL
HIGHER
EVAPORATION

This is a desert because it is HOT and WINDY and there is LIMITED RAINFALL and HIGHER EVAPORATION. This makes it DRY. Dry places are called deserts. We live in a desert.

## "Water, Water Everywhere" Crossword Puzzle.

#### <u>Down</u>

- 1. Salt
- 2. Groundwater
- 3. Wells
- 4. Rain
- 5. Wisely
- 6. Cloud

#### **Across**

- 7. Water
- 8. Dam
- 9. Evaporates
- 10. **Dry**
- 11. Limited
- 12. Wind



# WISE WATER WAYS

# MY FAMILY'S WATER USE INVESTIGATION

How much water does my family use each day?

You might be surprised to find how much water your family is saving already. Do a little research. Interview your family members. Ask each member of your family to help you answer these questions. Then using their answers, complete the Wise Water Ways Family Water Use chart in your Activity Book.

When scientists do research, they often identify people with numbers instead of using their names. This way, only the research person will know the identity of the people in the study. You will need to make a key. A key is made just for your use. Write the person's name and assign a number to it. Start with number 1 for yourself. Put the number instead of the name of the family member in the blanks as you answer these questions.

FAMILY M	IEMBER	RESEARC	NUMBER	
		<del></del>		
	<del></del>			
1. For f	amily members who	take showers.		
A.	Stay in the showe	r less than four mir	nutes.	
В.	Stay in the showe	r more than four m	inutes.	 
2. For f	amily members who	take baths.		
Α.	Fill the tub less tha	an half full.		
В.	Fill the tub more th	nan half full.	20	 
_			<del></del>	 

Yes	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
4. Turn off the water while brushing teeth.  Yes	
No	
5. Use a method other than turning on the faucet and letting the water run to getting a drink of water.  Yes	
5. Use a method other than turning on the faucet and letting the water run to getting a drink of water.  Yes	<del></del>
getting a drink of water.  Yes	
	o get cold before
Yes	down the toilet.
7. If your family members have U.C. ways of saving water list those ways h	ner <b>e</b> .



# Wise Water Ways Letter Cards

Letters are for the Water, Water Everywhere review activity for the second class.

Cut them apart and glue to larger pieces of poster board to make them more durable and easier for the children to handle.





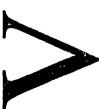














-- --: ")





#### WISE WATER WAYS

#### GAME BOARD PATTERN

These patterns are for the game board pieces. They need to be copied on different colored  $\Gamma$  ar. The paper color suggested will insure you have different colored game pieces next to each other.

For each game board you will need:

- a. A piece of poster board approximately 20 by 20 inches.
- b. One 8 1/2 by 11 inch sheet of blue, green, orange, red and yellow typing paper.
- c. Paste or rubber cement.
- d. Black marking pen.

Copy the game pieces onto the colored paper. Cut out each piece and glue to the poster board using the game in the center of the ACTIVITY BOOK as a guide for placement. Use the black marking pen to put the title on the game and to mark around each piece. Additional designs and artwork may be added to the board.

You may wish to cover the board with a clear plastic covering to protect the surface.



# FLUSHED A GUM WRAPPER DOWN THE TOILET

Move back 1 space and wait for your next turn.

I wasted 5 gallons of water.

LEFT THE WATER RUNNING
TO COOL IT OFF FOR A DRINK
Move back 1 space and
wait for your next turn.

LET THE WATER RUN WHILE
SCRUBBING HANDS

Move back 1 space and

Move back 1 next turn.

Wait for your next turn.

Wait for your next turn.

Write in the amount of water you might
have wasted.

FILLED THE WASHER TO
WASH 1 PAIR OF BLUE JEANS
Wait for your next turn.

// wasted 40 gallons of water.

### TOOK A SHORT SHOWER

Move ahead 2 spaces and wait for your next turn.

I could have saved 20 gallons of water.

TURNED THE WATER OFF
WHILE BRUSHING TEETH
Move ahead 1 space and
Move ahead 1 space and
wait for your next turn.
wait for your next turn.
I may have saved more than 2 gallons
of water.

# TALKED TO FAMILY ABOUT SAVING WATER

Move ahead 1 space.

TURNED OFF SHOWER WHILE

Move ahead 2 Spaces and

How much water do you think you

TURNED OFF SHOWER WHILE

WASHING HAIR

WHILE

Could have Saved?

2



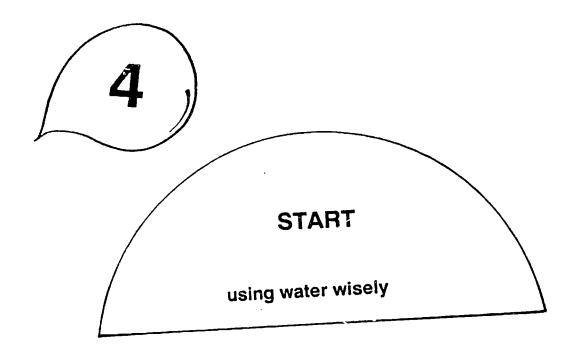
# LET THE WATER RUN WHILE BRUSHING TEETH

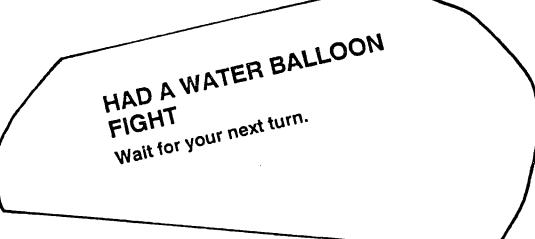
Move back 1 space and wait for your next turn.

I may have wasted more than 2 gallons of water.

WASHED HAIR IN THE SHOWER AND LEFT THE WATER RUNNING Move back 2 spaces and Wait for your next turn. USED THE DISHWASHER TO USEU IME UISHWASHEM IU WASH 1 CUP AND 1 PLATE Move back 2 spaces and wait for your next turn.







CONGRATULATIONS! REMEMBER TO USE WATER WISELY.



# TURNED OFF THE FAUCET TIGHTLY

Move ahead 1 space and wait for your next turn.

A dripping faucet can waste a lot of water.

PUT WATER IN A PITCHER IN THE REFRIGERATOR FOR Move ahead 2 spaces and COLD DRINKS wait for your next turn.

AURALIO OFF, U.A.L. C. WHILE

JECHUBBING HANDS

Move after the root fire MAN STREET STREET TO THE TENT OF THE STREET,

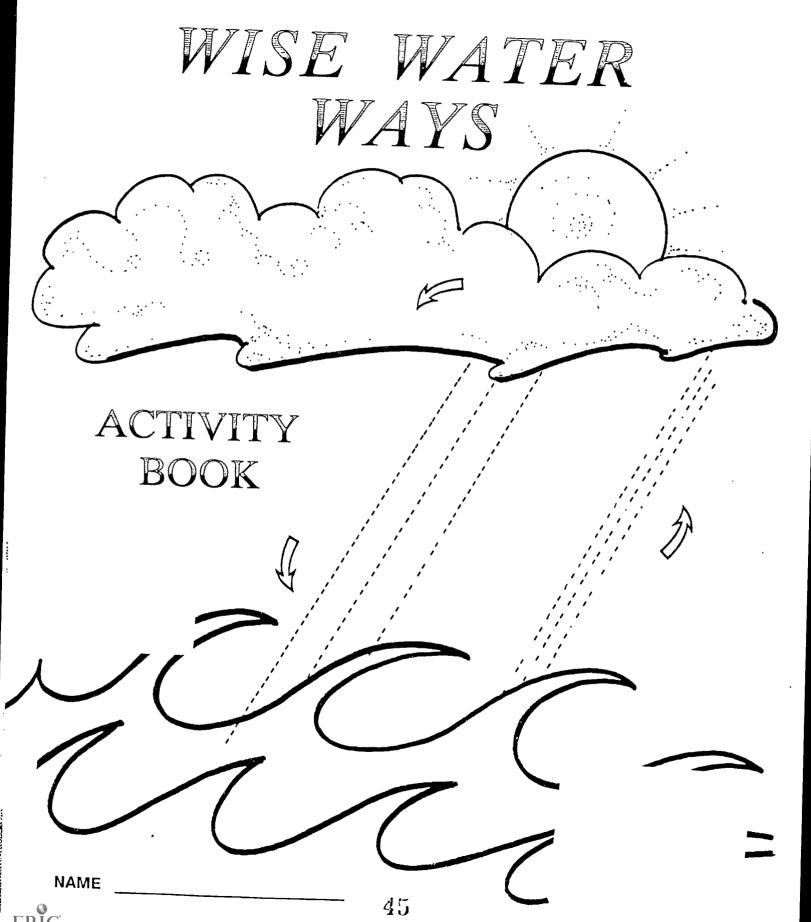
of water.

Mar Tray Have sayed more than 2 gallons

CHECKED THE CLOTHES TO HAMPER FOR CLOTHES TO Move ahead 2 spaces and wait for your next turn. MAKE A FULL LOAD IN WASHER How much water did you save?

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## WISE WATER WAYS

Developed by University of Nevada Cooperative Extension

WATER, WATER EVERYWHERE

Nature never wastes a drop of water. Each water drop moves in an endless journey. The wind and warmth from the sun evaporate the water from the earth. It becomes water vapor in the atmosphere. This water vapor forms clouds. The water returns to earth as rain, snow or sleet. This completes the water cycle.

Along the way water soaks into the ground. Plant and tree roots will use this water. People drill wells to get water. We call this groundwater.

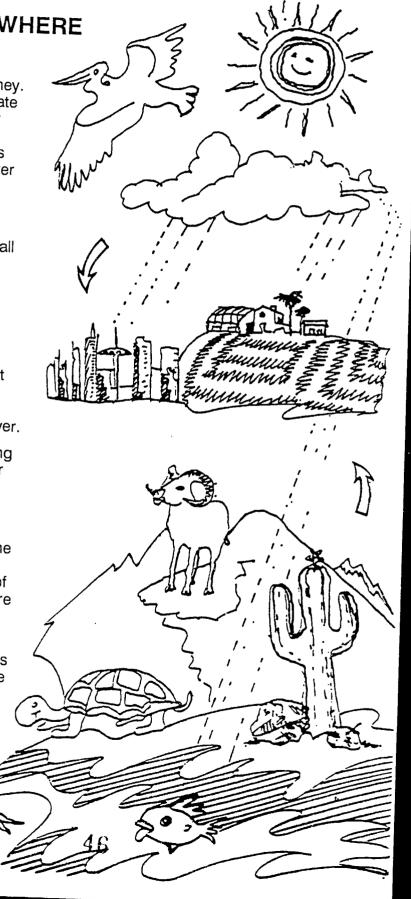
Some of it will run off the ground as streams and rivers. This water will run into lakes and ponds, and often the ocean. It provides homes to many different plants, animals, fish, reptiles, and other wildlife. People use some of this fresh water before it reaches the ocean where it becomes salty. Man creates reservoirs, like Lake Mead, by building dams in rivers, like the Colorado River.

Lake Mead supplies water to people living in the Las Vegas Valley. They also get water from wells. Some cities get all of their water from wells. People that live in the country often get water from a well in their backyard.

All of this fresh water makes up about one percent of all of the water in the world. Ice caps and glaciers trap another two percent of the world's water. It will be many years before that water will be available for people to use.

The rest of the water will be in the ocean. Ocean water is salty. Only animals and plants that can live in salt water are able to live in the ocean. We must process this water in a special way for human use. This process is very expensive.

All of the water we will ever have is on earth now. Some places have much more than others. On the desert we have a limited supply. We must learn to use what we have wisely.





### **OUR DRY DESERT**

### Secret Code Puzzle

To solve the code, match the numbers with the letter in the "Secret Code" wheel. For example, the first number in the secret message is done for you. The number is 23. In the wheel, the letter that goes with 23 is D, so D is the first letter of the message. Now complete the secret message to find the reasons why our desert is dry.

S	Deserts are <u>D</u> Scientists say are areas 23 9 2 23 22 8 22 9 7 8
	that get than 10 inches of a year.  15 22 8 8 9 26 18 13 21 26 15 15
C	The evaporation rate is usually
R	than the yearly <u>7                              </u>
E T	All deserts are the same. They are not all and and 13 12 7
	8 26 13 23 2 ·
M.	But deserts have rainfall. That rainfall. That
<b>E</b>	limited rainfall may result in a To 18 14 18 7 22 23 water supply.
S	All living things water.
S	4 18 8 22 use of 4 26 7 22 9 W 4 3 2 1 26/25 24 D W 4 3 2 1 26/25 24 D
A	is important for everyone.  U 6 T 7 Secret Code 21 F 21 F 20 G
G	R 9 10 1 16 17 J
E	0 P 0 N M L K



### COULD THERE BE A LIMITED SUPFLY OF WATER?

Here is some more information about our dry desert home. Use the "Secret Code" wheel below to fill in the hidden letters.

 4
 22
 19
 26
 5
 22
 15
 12
 7
 8
 6
 13
 8
 19
 18
 13
 22

 8
 7
 9
 12
 13
 20
 4
 18
 13
 23
 8
 25
 15
 12
 4

 7
 22
 14
 11
 22
 9
 26
 7
 6
 9
 22
 8
 26
 9
 22
 19
 18
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 4
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 22
 9
 22
 5
 26
 11
 12
 9
 26
 7
 22
 8

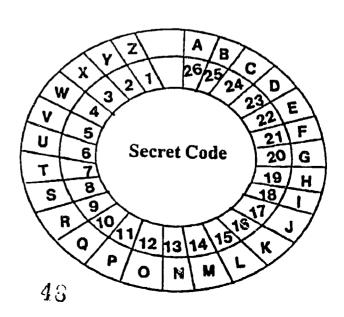
 7
 19
 22
 9
 26
 18
 13
 21
 26
 15
 15
 4
 22
 20
 22
 7
 14
 26
 2

 13
 12
 7
 9
 22
 11
 15
 26
 24
 22
 7
 19
 22
 4
 26
 7
 22
 9
 4
 22

 6
 8
 22
 </t

Could there be a Limited Supply of Water?

2 22 8





### **OUR DRY DESERT**

### WORD SCRAMBLE

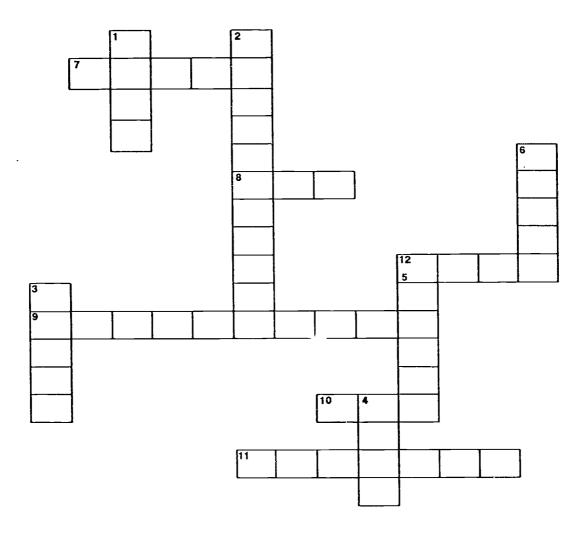
Each of these words come from the OUR DRY DESERT secret code puzzle. See if you can unscramble them. Write the word on the line next to the scrambled word.

ОТН		
DINYW		
YDR		
MIETDIL		
NARIAFLL		
GIHHRE	<del></del>	
PARNOTIOAVE		
Use the unscrambled words to	fill in the blanks in the sentences be	elow.
This is a desert because it is	and	and there is
	and	This
makes it Dry	places are called deserts. We live in a	desert.
Draw a picture to show Our Dry	Desert.	



### Water, Water Everywhere

### **CROSSWORD PUZZLE**



### **DOWN**

- 1. It is very difficult for people to use ocean water because it has this in it.
- 2. People can get this by drilling wells.
- 3. People can get water from reservoirs or from these.
- 4. In the water cycle water returns to earth as snow, sleet or this.
- 5. How we must use water.
- 6. You make these when you breathe on a cold day.

### **ACROSS**

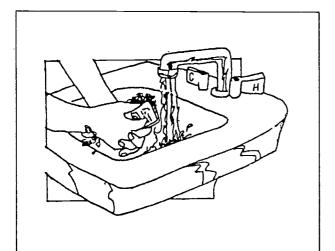
- 7. If we didn't have this we wouldn't be able to live.
- 8. When man builds one of these, a reservoir like Lake Mead is formed.
- 9. This is the word we use to describe how water turns into water vapor.
- 10. Deserts are \_\_\_\_\_.
- 11. The supply of water in the desert.
- 12. This, with the warmth from the sun, evaporates the water from the earth.



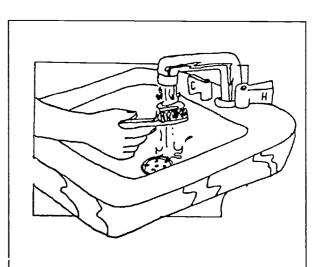
Choose the activity you will use: Washing Hands - Brushing Teeth.

Put an X in the square by that activity.

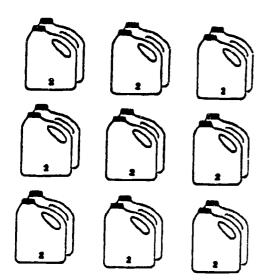
**WASHING HANDS** 



**BRUSHING TEETH** 



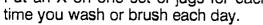
Running water while washing hands or brushing teeth wastes more than 2 gallons.



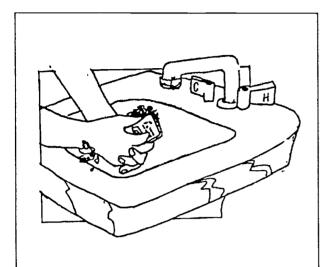
Put an X on one set of jugs for each

### **WORK SPACE**

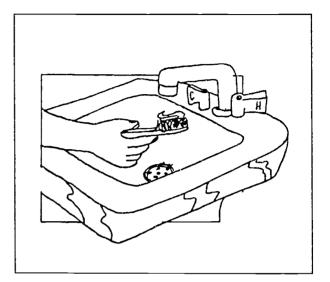
- Number of times washed hands or brushed teeth.
- x 2 Number of gallons of water used each time.
- Number of gallons of water used in one day.



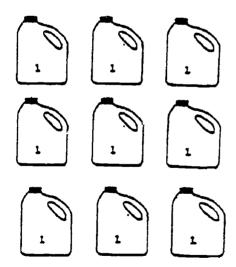
### **WASHING HANDS**



### **BRUSHING TEETH**



Turning water off when washing hands or brushing teeth uses less than 1 gallon. To figure the amount of water you can save, write the amount of water you used per day from the bottom line in the work space on page 6 on the top line of the work space below.



Write the number of times you wash hands/brush tee'h each day in this space
\_\_\_\_\_. This is the number you have on the first line of the work space on page 6. Put an x mark on that number of jugs. This is the number of gallons of water you would use to wash hands/brush teeth if you turn the water off. Put this number on the second line in this work space.

### **WORK SPACE**

- \_\_\_\_ Number of gallons used with water running.
- Number of gallons used with water turned off.
- Subtract to find the number of gallons you can save per day by turning the water off.



### WISE WATER WAYS GAME

### **DIRECTIONS**

\*Each player should have a marker that he/she will move across the game board.

The Wise Water Ways game provides a "fun" way to identify wise and wasteful indoor water use habits. Remove the game sheet from your Activity Book. Make your own markers or use something like different color buttons. Dice, a game spinner from another game or small pieces of paper numbered from one to six can be used to determine number of spaces a player moves.

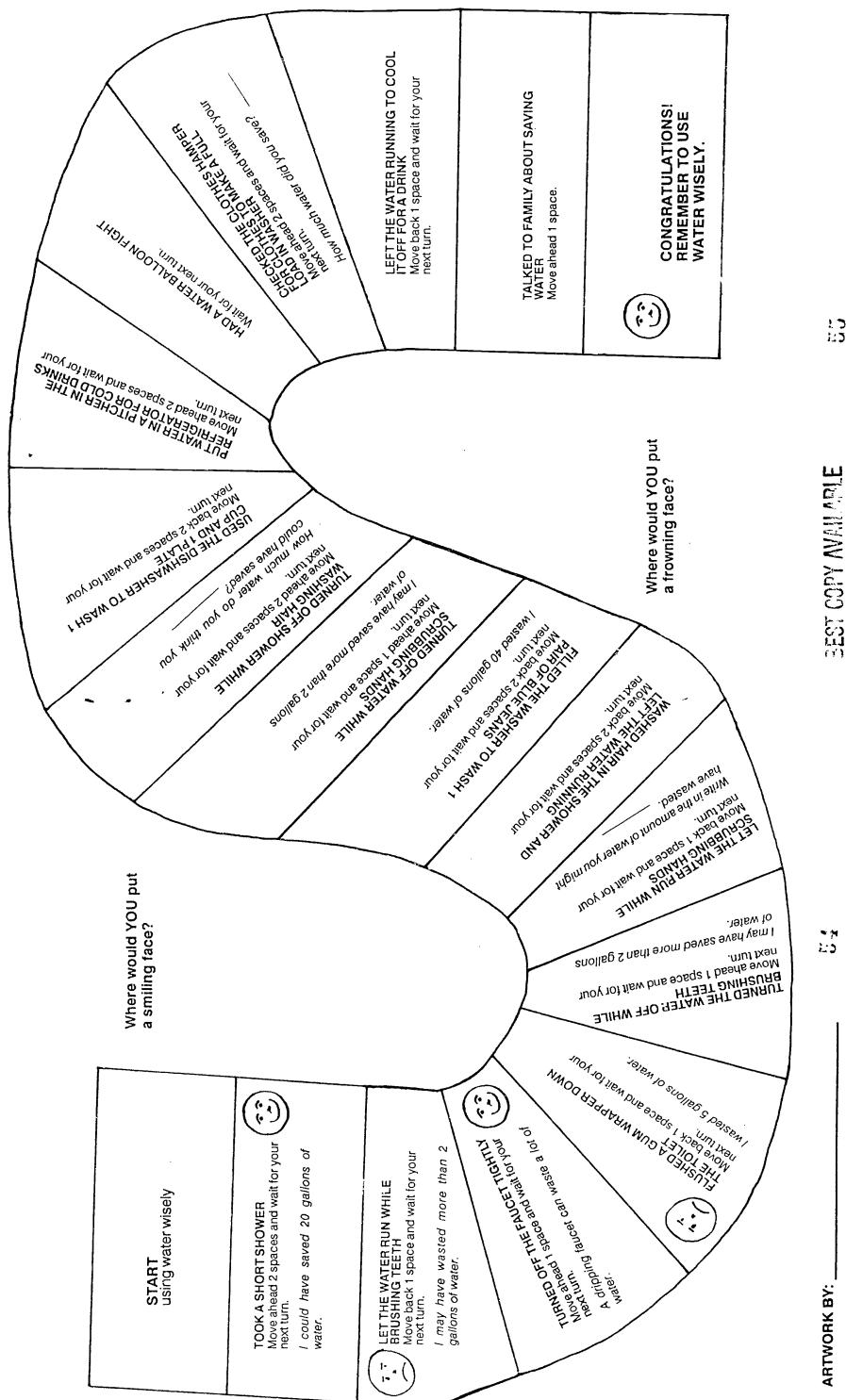
Determine which player goes 1st, 2nd, etc. All players put their markers on "Start". Take turns drawing numbers or throwing dice to determine moves. To complete a move each player reads the water habit and directions for the space they land on and explains the bonus or penalty to other members of the team before moving as directed.

\*Options: Players may make other rules. Remember that the objective of the game is to learn wise water use habits.

The player who lands on or crosses the last space 1st wins. This page maybe removed from the book so participant may use it with friends and family.



# ISE WATER WAYS GAME



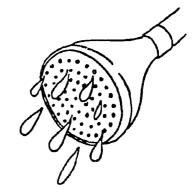
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\*Full Text Provided by ERIC

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**SHOWERING** 

Showers may use up to 8 gallons of water a minute. An 8-minute shower could use 64 gallons of water. How many minutes do you stay in the shower?



By cutting your shower time in half you would be a water saver. To find out how much water you use have someone time you. Mutiply the number of minutes by 8 and figure the number of gallons of water you use.

Work the problem in the work space to see how much water you would save by taking a 4-minute shower instead of an 8-minute shower.

### **WORK SPACE 1**

64 = gallons of water used in 8-minute shower

 $(8 \times 8 = 64)$ 

- 32 = Gallons of water used in a 4-minute shower

 $(8 \times 4 = 32)$ 

Number of gallons taking a shorter shower can save.

### **WORK SPACE 2**

\_\_\_ = Number of showers I take each week.

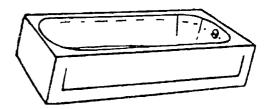
x 32 = Gallons saved by cutting my shower time in half.

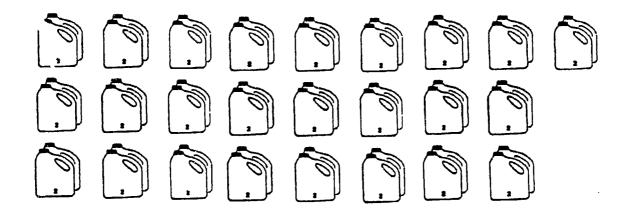
\_\_\_ = Gallons of water I could save in 1 week.

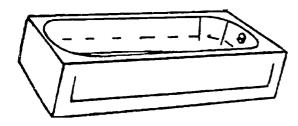


**TAKING A BATH** 

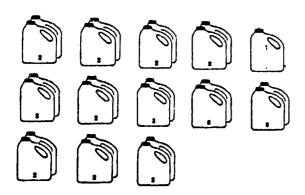
Tub filled full = 50 gallons







Tub filled half full = 25 gallons



### **WORK SPACE**

### Problem 1:

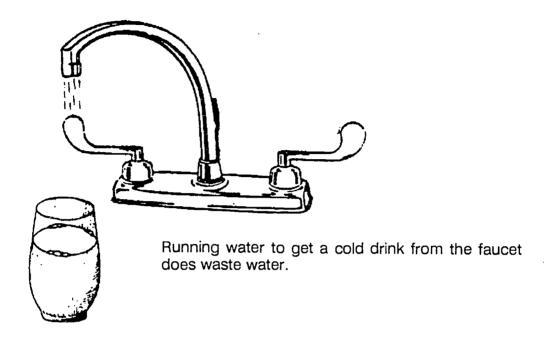
- Gallons used in full tub.
- \_\_\_ Gallons used in half filled tub.
- = \_\_\_ Gallons I could save.

### Problem 2:

- Number of baths I take each week.
- x 25 Gallons saved.
- = \_\_\_ Gallons I could save each week.



### **COOLING WATER FOR A DRINK**



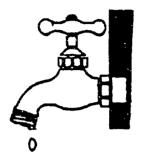
Running the kitchen faucet to cool water for a drink is wasteful. There are other ways to get a cold drink. In the space below draw a picture for one way to cool the water.

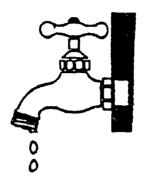
ONE WAY TO COOL WATER FOR A DRINK

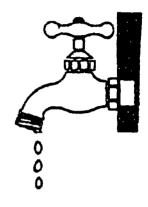




The amount of water wasted depends on how fast the water is dripping.







One drop each second wastes 6-1/2 gallons a day.

A slow drip wastes 15 gallons a day.

A steady drip wastes 20 gallons a day.

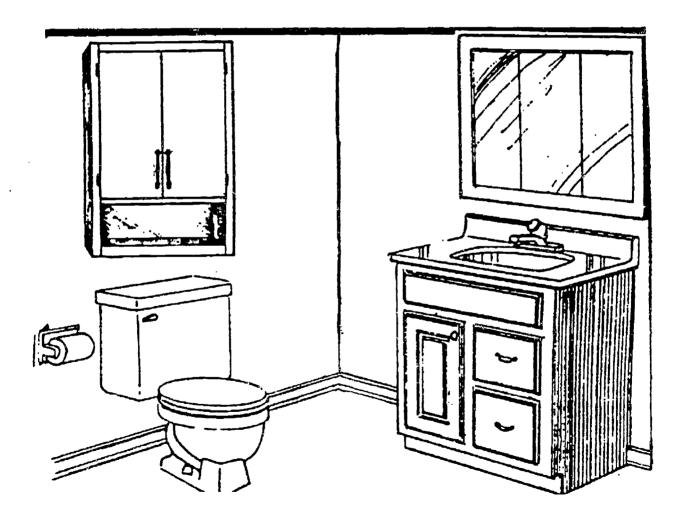
Do you have any leaking faucets in your house? If you do, complete the following to see how much water is being wasted.

Faucet Number	Number of gallons of water being	wasted from each faucet.
1		
2		
3		
	+	Total number of gallons of water being wasted each day.



### **TOILETS ARE NOT TRASH CONTAINERS**

It takes up to 5 gallons of water each time you flush a toilet. Flushing facial tissue, gum wrappers, or spiders and bugs down the toilet is a very wasteful habit. Draw a picture of where you should put trash in the bathroom below.





### WATER TRIVIA TO IMPRESS YOUR FRIENDS

- Small leaves and a waxy covering on the leaves are two ways plants adapt to the lack of water on the desert.
- People need two to three quarts of fluid each day. This may be from a combination of water or other liquids they drink and food they eat.
- An average person consumes about 16,000 gallons of water in a lifetime.
- A Kangaroo rat has learned to live without drinking water.
- Hydrology is the science dealing with the study of water.
- Mt. Waialeale, Hawaiian Islands, has the highest recorded annual rainfall. Over 470 inches per year.
- An acre-foot of water covers one acre of land one foot deep.
- It takes about 1,800 gallons of water to produce a pair of jeans.
- It takes 150 gallons of water to produce a loaf of bread.
- It takes 2,072 gallons of water to make four new tires.
- It takes 23 gallons of water to produce one pound of potatoes.
- It takes 125 gallons of water to produce one pound of tomatoes.
- About one percent of the earth's water is usable fresh water.
- 97% of all the water on our earth is in our oceans and seas. 2% of the water on our earth is frozen.
- Water freezes at 32 degrees Fahrenheit and 0 degrees Celsius.
- Water becomes vapor at 212 degrees Fahrenheit; 100 degrees Celsius.
- 66% of your body weight is water.
- 70% of an elephant's weight is water.
- 75% of a chicken's weight is water.
- 1 cubic foot of water = 7.481 gallons
- An average swimming pool holds about 24,000 gallons of water.

### Find some other water trivia to add to the list





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# FAMILY WATER USE CHART

Uses toilet for a trash can						
Never flushes trash down the toilet				_	•	
Runs water from faucet to get a cold drink						
Uses another way to get a cold drink						
Leaves water running while brushing teeth						
Tums off water gninsund siing tiesth						
Leaves water running while washing hands						
rətaw Elo zırıuT Briile washirg sbrands						
Fills tub more Iluî S\f nsdt						
seel dut elli? Ilut 2/I nant						
Showers more Than 4 Minutes						
Showers less						
FAMILY MEMBER'S NUMBER	# 1	#	<b>8</b>	#	# 2	9#

each family member about their water use habits. Put a check mark in the appropriate space by each Conduct your own family water use investigation. Assign each family member a research number. Ask person's number. DIRECTIONS:

Total number of check marks in the *italicized columns*Total number of check marks in the other columns

More checks in the italicized columns mean my family uses water wisely.

More checks in the other columns mean my family does not conserve water.

3



### MY WATER WISE POSTER

Draw your own idea of how to conserve water here.

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