What Do You Know About H_2O?

REGIONAL WATER PROVIDERS CONSORTIUM

www.conserveh2o.org

Activity Book

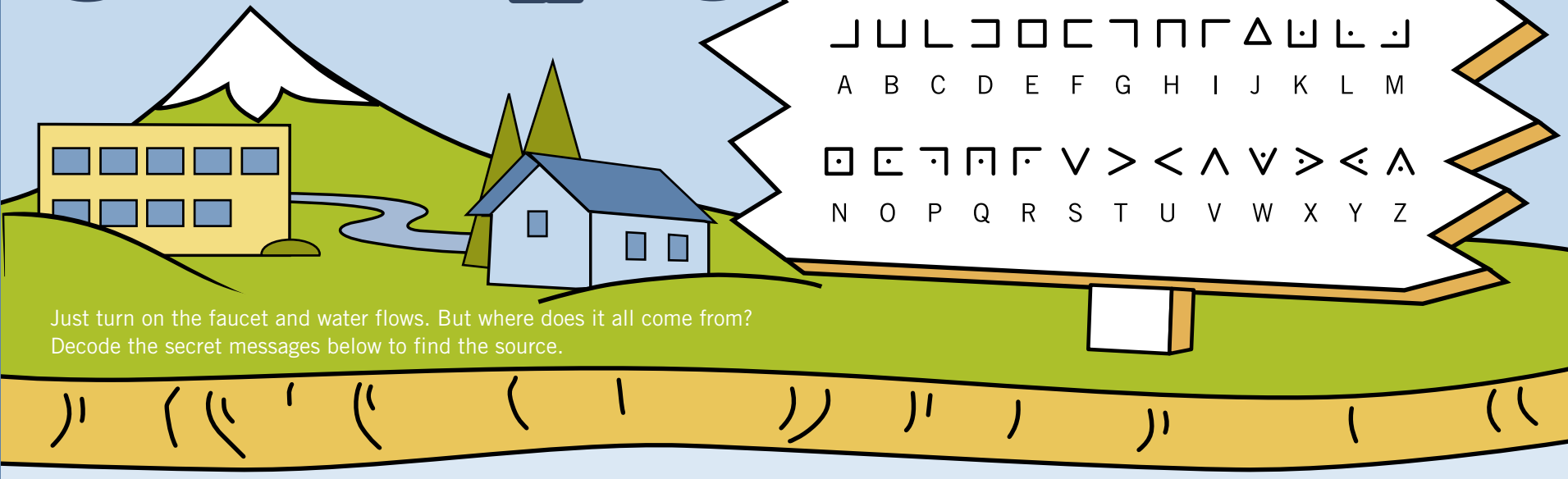
Be Water Smart

Water is the most valuable natural resource on earth. We can't live without it. Which means we need to use it wisely and learn as much about it as possible. This Be Water Smart book of puzzles and games will test how much you know about H2O. Open your mind and let the info flow. Get water wise!

REGIONAL WATER PROVIDERS CONSORTIUM

www.conserveh2o.org

CRACK THE CODE



A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

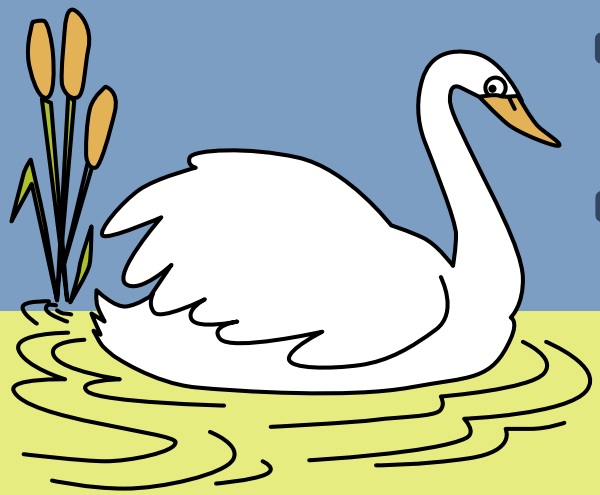
Just turn on the faucet and water flows. But where does it all come from?
Decode the secret messages below to find the source.

_____ _____ _____ _____ _____ _____ _____.

_____ _____ _____ _____ _____ _____ _____.

_____ _____ _____ _____ _____ _____ _____.

_____ _____ _____ _____ _____ _____ _____.



Below the Surface

You can't survive without water. Do you know where to find it? Hope so, because this test could make you thirsty. Draw a line to link each question with the correct answer.

Give an example of standing surface water.

About how many inches of snow make up an inch of water?

What type of soil is most likely to allow groundwater contamination?

What are smaller streams that flow into larger streams called?

Of all the earth's water, how much of it is found in the oceans?

Water that runs off hard surfaces is called?

What is a geographical area called where all the water drains naturally to one place?

What is the scientific name for the study of groundwater?

What is the name of an artificial lake that stores water?

What is the name for an underground layer of sand, gravel, or other rock that is a source of groundwater to a well or spring?

Tributaries

Aquifer

Watershed

97%

Reservoir

10 inches

Surface run-off

Hydrogeology or geohydrology

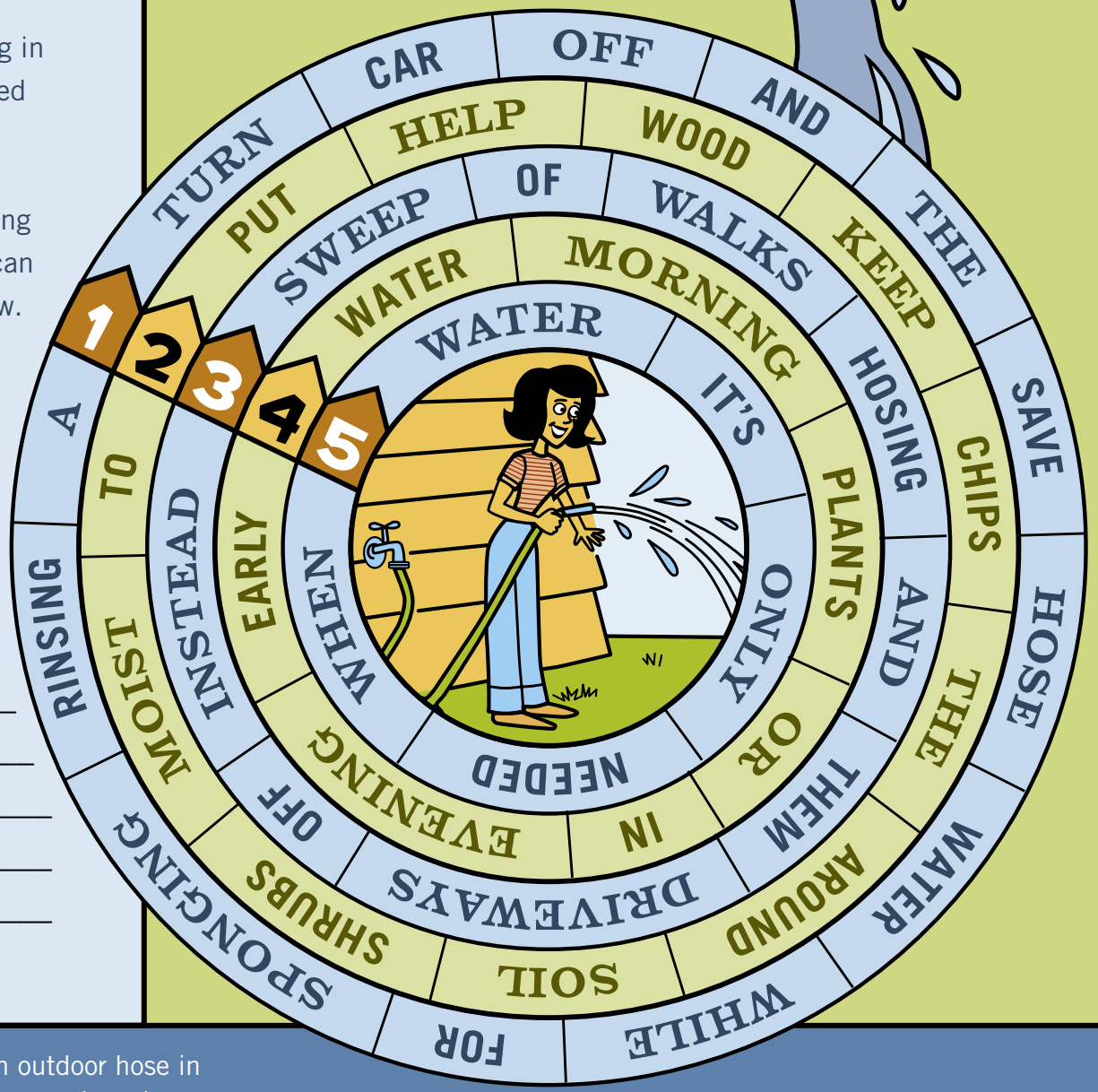
Sandy

Lake, ponds, swamps, bogs, marshes

USE WATER WISELY OUTDOORS

Some water-saving ideas are spinning in this "water wheel". For each numbered suggestion, go around the circle clockwise, reading every other word. (Cross them out as you go.) Keep going until you've read all the words. You can write the five tips in the spaces below.

1. _____
2. _____
3. _____
4. _____
5. _____



1000 gallons of H_2O can run through an outdoor hose in an hour! It's no wonder so much H_2O is wasted outdoors.

WHAT'S YOUR H_2O IQ?

ARE YOU A WATER SAVER? We don't mean the lifeguard kind, we're talking about people who use only the water they need and leave the rest for the fish and Mother Nature (she gets thirsty, too). Answer the following questions and see how you "measure up" as a water saver.

WHEN I BRUSH MY TEETH I...

a. Only turn the water on to wet my brush and rinse.
b. Leave the water running the whole time.
c. I never brush my teeth; I prefer "Pearly Browns."

I USE THE TOILET FOR...

a. The stuff you can't do unless you unzip.
b. Shooting baskets with tissue.
c. My dog's water dish; he loves the extra flavor.

FOR ME, THE SHOWER IS...

a. A quick dip; I have better things to do than wrinkle.
b. Where I can take time to improve my yodeling skills.
c. What? Shower and lose my signature scent?

WHEN MY PARENT ASKS ME TO DO THE LAUNDRY I...

a. Make sure there's a full load, before starting the washer.
b. Know the fewer things I wash, the fewer I'll have to fold.
c. Fold the stuff in the hamper and spray it with Lysol™ – so far they haven't noticed.

DURING THE DAY I QUENCH MY THIRST WITH...

a. Water that was chilled in the refrigerator.
b. Cold water I got by letting the tap run until cool.
c. A super-big, super-sugary, and super-caffeinated super-sipper!

WHEN I CAN'T FINISH A GLASS OF WATER I...

a. Use it to water the plants.
b. Dump it down the drain.
c. Put my grandpa's teeth back where I found them; it was the only glass I could find!

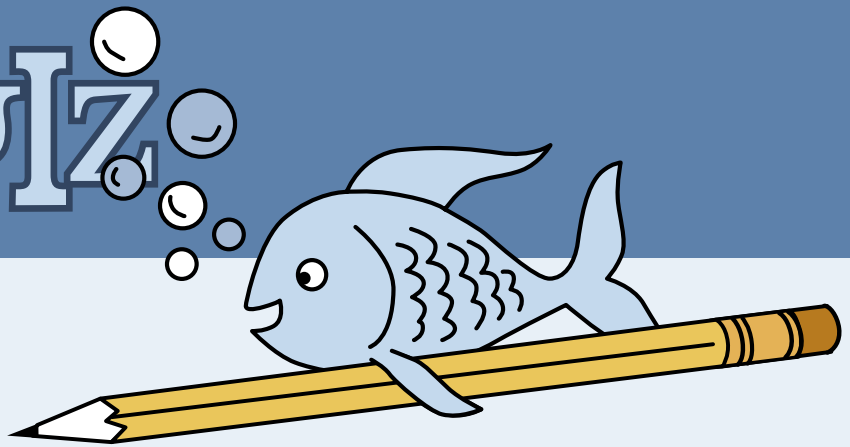
IF YOU ANSWERED...

MOSTLY "a's": You're a Water Super Saver! You know water is vital for life, but you don't waste it either.

MOSTLY "b's": Remember – there's a limited amount of water available for use and you may be using more than your share. See if you can modify a habit or two and turn your "b's into "a's".

MOSTLY "c's": You may be saving water, but you're lacking serious personal hygiene. It's okay to USE water, just use it wisely!

CONSERVA-QUIZ



Water is a vital resource and conserving it is smart. Your brain is also a valuable resource. Use it to connect each question with the right answer.

Conserving water is important because it
a) saves money
b) helps salmon
c) we won't have to build more reservoirs
d) all of the above

How can you save water while brushing your teeth?

Which of the following is the best example of water waste?
a) washing the driveway
b) bathing
c) drinking
d) fires

How much water does the average family of four use each day?
a) 240 gallons
b) 120 gallons
c) 500 gallons
d) 50 gallons

True or False: A faucet that is dripping 60 drops a minute will waste about 8 gallons a day or 240 gallons in a month.

True or False: You can use your water meter to check for leaks.

True

240 gallons

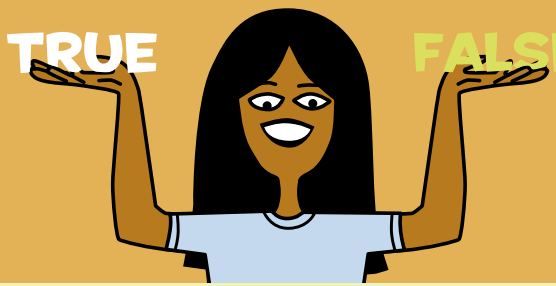
a) washing the driveway

Turn the water off

True

d) all of the above

Know Your H_2O



Cover the true/false answers on the right side of this page. Circle T for True and F for False on the left side. Check your answers and see how water smart you are.

T OR F AS AIR RISES AND COOLS, THE WATER VAPOR IN IT WILL CONDENSE.

T The tiny drops of water move closer to each other to form clouds. It takes billions of drops to make a cloud!

T OR F WHEN THE SUN DRIES UP WATER IN LAKES AND STREAMS, IT COMPLETELY DISAPPEARS.

F The sun causes water to evaporate and become water vapor: like when steam rises from boiling water. The water vapor is still there you just can't see it.

T OR F MOST OF THE EARTH'S FRESH WATER LIES UNDERGROUND.

T Most of our fresh water is found in between cracks in rocks and in soil.

T OR F SNOW ISN'T CONSIDERED PRECIPITATION.

F Both rain and snow are ways water returns to the Earth's surface, which is called precipitation.

T OR F A PERSON NEEDS TWO AND A HALF QUARTS OF WATER A DAY TO LIVE.

T Yes! If you think that's a lot, a milk cow needs 37 gallons of water a day!

T OR F WE EACH USE ABOUT 70 GALLONS OF WATER A DAY.

T From brushing our teeth to taking a bath, we each use about 70 gallons of water a day.

T OR F THE WATER YOU DRINK HAS BEEN AROUND FOR MILLIONS OF YEARS.

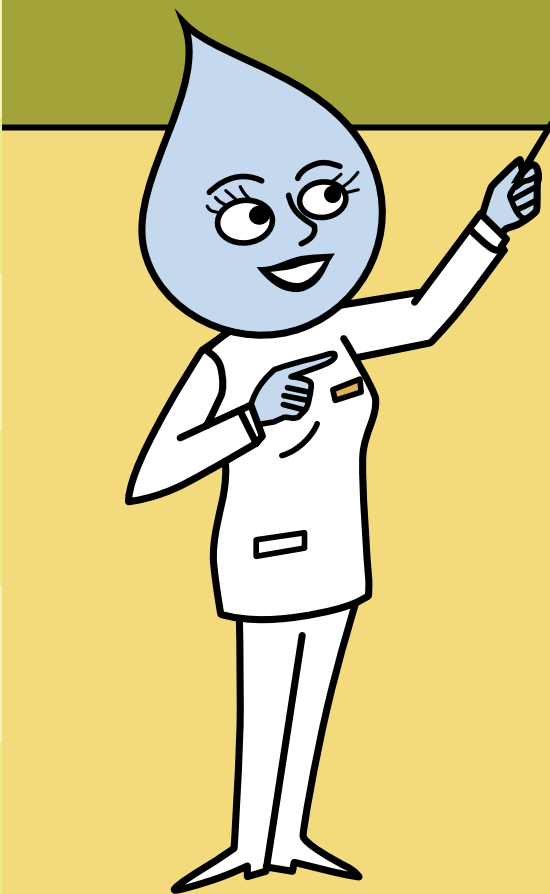
T We have the same amount of water today as we did back when dinosaurs roamed the earth and seas. It's the same molecules, they have just been moved around!

T OR F OF ALL THE WATER IN THE WORLD, 50% CAN BE USED FOR DRINKING.

F Less than one percent of the Earth's water is fresh and can be used for drinking.

WATER, WATER, EVERYWHERE AND NOT A DROP TO WASTE!

USE THESE FACTS TO HELP YOU SOLVE THE PROBLEMS BELOW.



WATER USE FACTS AND FIGURES

How much water does it take to:

Flush the toilet ..... 6 gallons
with a water saving device ..... 4 gallons
with an ultra-low flush toilet ..... 1.6 gallons
Run the faucet without an aerator .....5 gallons per minute
with a water saving aerator ..... 2.5 gallons per minute
Take a shower .....5 gallons per minute
Run the dishwasher .....about 17 gallons per load
Run the washing machine ..... 41-49 gallons per load
Run a garden hose .....5 gallons per minute

6:32 AM Dr. Drop, in the bathroom, turns on a faucet without an aerator to brush her teeth. How much water would she use if she leaves the water running three minutes? _____
How much water would she use if she turns the water on for 15 seconds to wet her toothbrush and again for 45 seconds with an aerator? _____

6:35 AM Dr. Drop blows her nose. How much water would she use if she puts the tissue in the garbage can? _____ How much water would she use if she flushes the tissue down a regular toilet? _____

6:40 AM Dr. Drop gets in the shower. How much water would she use if she showers until 7:00am? _____ How much water would she use if she takes a short, five minute shower? _____

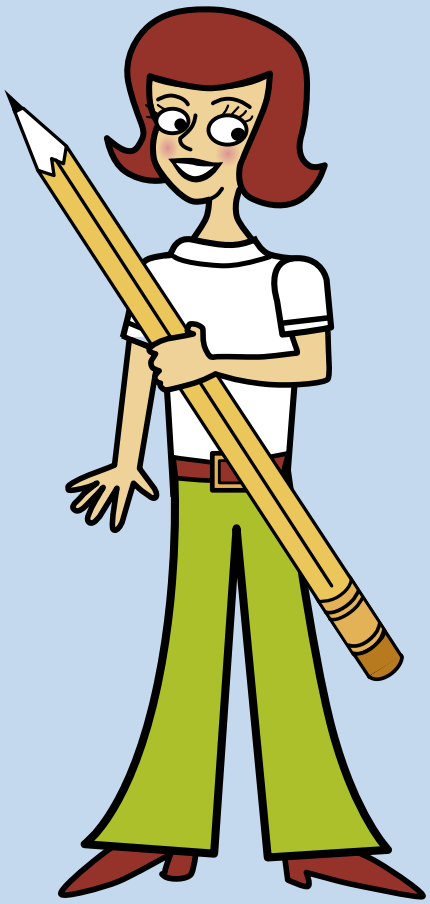
7:05 AM Dr. Drop, in the kitchen, gets a glass of cold water. Not counting the water in her glass, how much water would she use if the water came from a pitcher of icy water in the refrigerator? _____
How much water would she use if she lets the water run for one minute without an aerator?
_____

Tips for Taps

brushing
faucets
leaks
shut-off
broom
five
mulch
sprinklers
drip
food coloring
refrigerator
teeth
driveway
full
shorter
toilet
evaporation
hose
sidewalk
trash can

Fill in the blanks below with the words on the left and discover what you can do to save water:

1. Water during the cool part of the day to avoid _____.
2. Instead of using a _____ to clean off your sidewalk or driveway, use a _____.
3. Take a _____ shower in _____ minutes or less.
4. Run the dishwasher and washing machine with _____ loads only.
5. When washing your car, use a hose with a _____ nozzle.
6. Put a layer of _____ around trees and plants to slow evaporation of moisture and discourage weed growth.
7. Position your _____ so water lands on the lawn or garden, not on your _____ or _____.
8. Check _____ and pipes for _____. Even the smallest _____ from a worn washer can waste 20 or more gallons a day.
9. Check your _____ for leaks by putting a little _____ in your toilet tank. If, without flushing, the color begins to appear in the bowl, you have a leak that should be repaired immediately.
10. Turn off the water while _____ your _____. Just wet your brush and fill a glass for mouth rinsing.
11. Don't use your toilet as a _____. Dead bugs and used facial tissue should go in the wastebasket.
12. Keep a bottle of cold water in the _____ for drinking, instead of letting the tap run until cold.



It's a Match

Draw a line from each word to its definition.

Transmission System

Distribution System

Groundwater

Water Conservation

Precipitation

Consumption

Potable Water

Treatment Plant

Water Meter

Disinfection

A device used for recording the amount of water passing through a pipe

Water that is fit for consumption

A facility for cleaning and treating fresh water for drinking

Using up goods and services

Large water pipes over 18" in diameter and pumps used to distribute drinking water from the source to the community

Water underground, such as in wells and aquifers

The act of of destroying harmful microorganisms

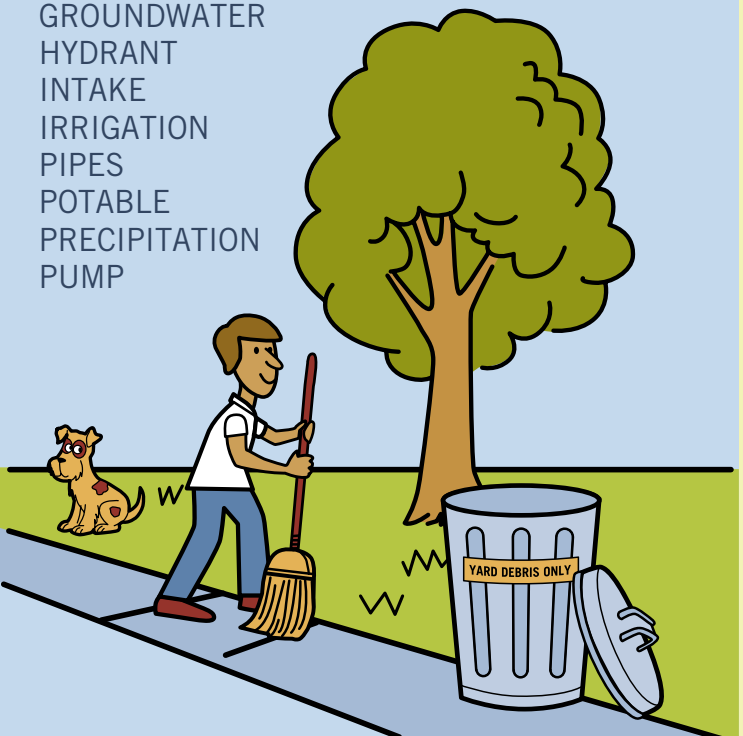
Pipes; valves to control water flow; and fire hydrants, tanks and reservoirs used in drinking water systems, which deliver water to homes

Saving, not wasting, water

Water vapor falling from the atmosphere as rain, hail, sleet or snow

WORD SEARCH

AQUIFER
CONDENSATION
CONDUIT
CONSERVATION
CONSUMPTION
CONTAMINATION
DAM
DISINFECTION
DISTRIBUTION
DROUGHT
EVAPORATION
GROUNDWATER
HYDRANT
INTAKE
IRRIGATION
PIPES
POTABLE
PRECIPITATION
PUMP
RESERVOIR
SOURCE
SURFACE WATER
TRANSMISSION
TREATMENT PLANT
VALVE
WATER CYCLE
WATER METER
WATER SYSTEM
WATERSHED



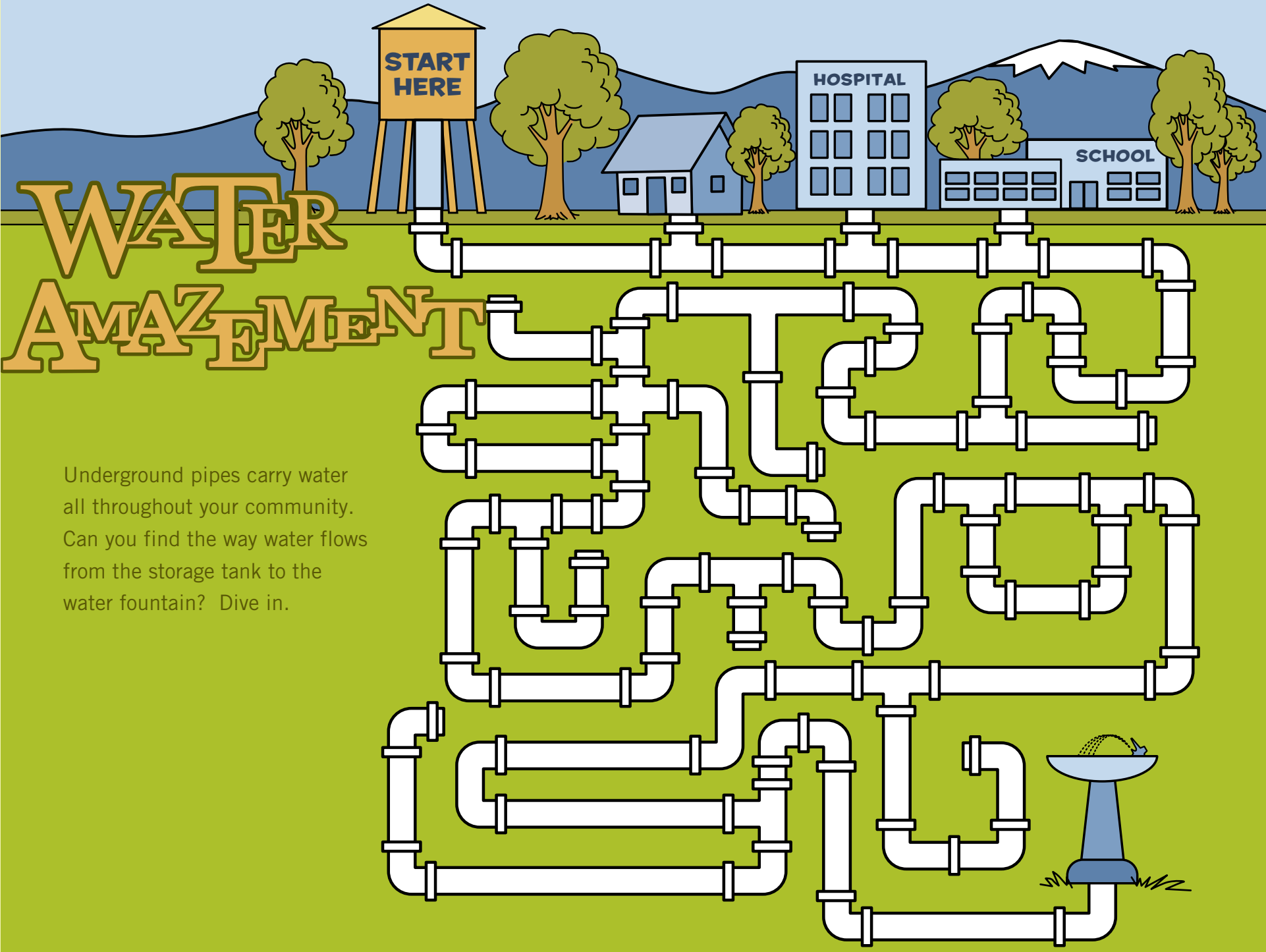
Circle, in the puzzle below, the water words listed on the left.

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

Moving across the rows from left to right, use the remaining uncircled letters to fill in the blanks below and reveal the water conservation message.

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ .

WATER AMAZEMENT



Underground pipes carry water all throughout your community. Can you find the way water flows from the storage tank to the water fountain? Dive in.

Streams of Science

Show what ya' know about H_2O. Draw a line that connects each question with the correct answer. Put your thinking cap on. It might rain.

Name the force that causes water to flow down hill.

When tiny drops of water gather together what do they make?

Which of the following is not part of the natural water cycle?
a) evaporation
b) condensation
c) devaluation
d) precipitation

As molecules of water freeze do they?
a) expand
b) contract
c) neither a or b

What is water called that is located below the earth's surface in rock crevices?

Find the scientific name for the natural water cycle.

Water evaporating from the leaves of plants and trees is called?

What is the temperature at which water boils in Fahrenheit?

212 degrees

Transpiration

Gravity

Groundwater

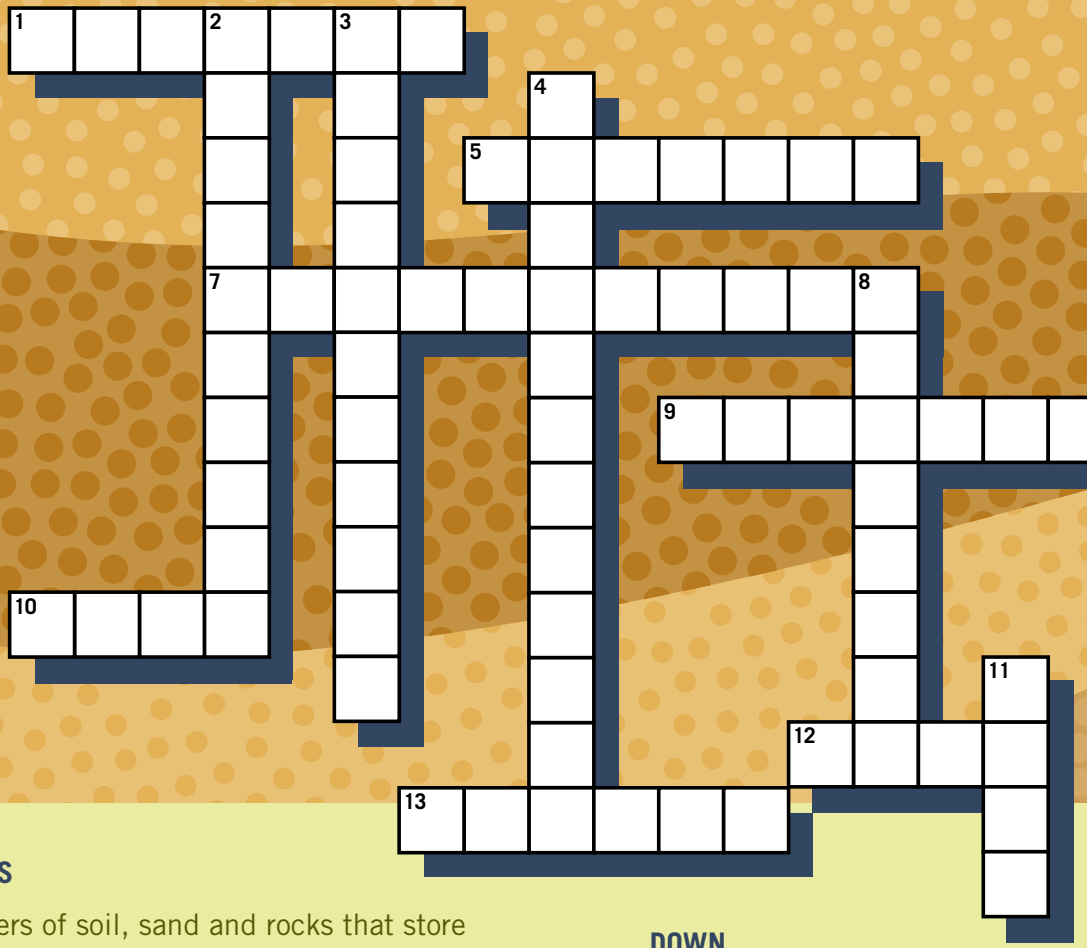
A cloud

c) devaluation

a) expand or pull away from each other

Hydrologic cycle

H_2O CROSSWORD



ACROSS

1. Layers of soil, sand and rocks that store groundwater.

5. To contaminate, to become unclean.

7. Water that is found underground in the cracks and spaces in the soil, sand and rocks.

9. Groundwater leaves the ground and enters a lake or stream in a _____ area.

10. An example of precipitation.

12. A pipe in the ground that is used to remove water from an aquifer.

13. Water on the earth's surface which moves into a lake or stream without absorbing into the soil.

DOWN

2. The largest use for groundwater is _____.

3. The stage of the water cycle when water changes from liquid to a vapor.

4. Clouds are an example of this.

6. A long period of dry weather could cause a _____.

8. Part of the water cycle when water soaks into the soil.

11. The movement of water underground is called groundwater _____.

WATER VOCABULARY

Aquifer - an underground layer of rock, soil and sediment that is filled or saturated with water

Condensation – water changing from a gas to a liquid

Conduit – a pipe for transporting fluids, such as water

Conservation – saving, not wasting

Consumption – using up goods or services

Contamination – unfit for use; pollution

Dam – a structure built to hold back a flow of water

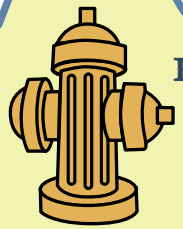
Disinfection – the act of destroying harmful microorganisms

Distribution System – pipes, valves to control water flow; and fire hydrants, tanks and reservoirs used in drinking water systems

Drought – a long period of dry weather without rain

Evaporation – the changing of water from a liquid to a vapor and rising into the air

Groundwater – water underground, such as in wells and aquifers



Hydrant – an upright pipe with a spout or nozzle for drawing water from a water main, installed for fire suppression

Intake – an opening which allows water into a conduit

Irrigation – supply water to dry land by way of ditches, pipes or streams

Pipes – tubes that convey fluid such as water. Water pipe material can be plastic, copper, ductile or cast iron, or concrete cylinder

Potable Water – water that is fit for drinking

Precipitation – water vapor falling from the atmosphere as rain, hail, sleet or snow

Pump – a machine that assists the flow of water in pipes; used to boost water to a higher elevation

Reservoir – a tank, pond or lake where water is collected and stored until needed

Source – a body of water such as a spring or lake that creates a primary water supply

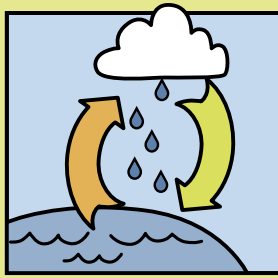
Surface water – precipitation that does not soak into the ground or return quickly to the atmosphere. Surface water can be a stream, lake, river, pond, wetland, ocean or reservoir

Transmission System – large water pipes over 18" in diameter and pumps used to distribute drinking water from the source to the community

Treatment Plant – a facility for cleaning and treating fresh water for drinking

Valve – a device that controls the flow of water through a pipe by opening, closing or obstructing the passageway

Water Cycle – often called the hydrologic cycle; the circulation of water from the sky to the earth and back which includes precipitation, transpiration and evaporation



Water Meter – a device used for recording the amount of water passing through a pipe

Water System – a river and all its branches; or a series of pipes, storage tanks, pumps, fire hydrants connected together to deliver water

Watershed – an area of land from which water drains to a single water body like a river

Want More Resources?

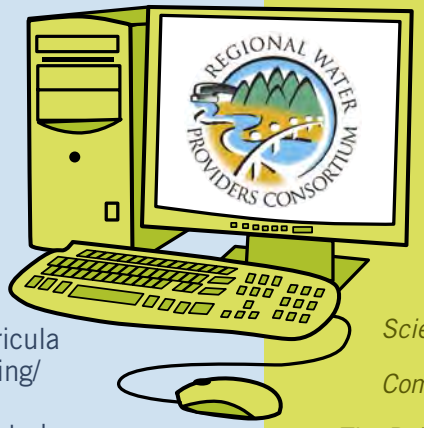
Waterful Web Sites

YOUTH WEB RESOURCES

www.conserveh2o.org
www.waterdata.com/student.htm
www.waterwiser.org
www.awwa.org
www.getwise.org
www.ecokidsonline.com
http://wri.wisc.edu/library/WaterCurricula
www.bellmuseum.org/distancelearning/watershed/watershed2.html
www.epa.gov./safewater/kids/index.html
www.epa.gov/watrhome
http://ga.water.usgs.gov.edu
www.groundwater.org
www.epa.gov/safewater/kids/kids_4-8
www.h2ouse.org
www.groundwater.org/kc/kc.html
www.uwex.edu/erc/gwah/

TEACHER WEB RESOURCES

www.oceansonline.com/water_props.htm
www.biologylessons.sdsu.edu/classes/lab1/lab1.html
http://ga.water.usgs.gov/edu/waterproperties.html
http://ga.water.usgs.gov/edu/followdrip.html
www.und.nodak.edu/instruct/eng/fkarner/pages/cycle.htm
www.epa.gov/surf to locate your watershed
www.adopt-a-watershed.org
www.oregonwri.org/watershedinfoline.html
www.epa.gov/owow/wetlands
www.nwrc.gov/fringe/about_ff.html
http://edtech.kennesaw.edu/web/wetlands.html
www.epa.gov/seahome/groundwater/src/ground.htm
www.ngwa.org/educator/educator.html#top
www.epa.gov/OWOW/monitoring/vol.html
www.waterqualityreports.org/
www.earthforce.org/section/programs/green/



Books to Wet Your Whistle

A Drop of Water: A Book of Science and Wonder, Walter Wick, Scholastic Inc, 1997

The Everything Kids' Science Experiments Book, Adams Media Corp., 2001

The Stream Team of Patrol, John Shepard, ABD Publishing, 1993

Water: The Drop of Life, Peter Swanson, Creative Publishing International, 2001

Science in the Water, World Book, Inc., 1999

Common Ground: The Water, Earth and Air We Share, Molly Bang, Scholastic, Inc., 1997

The Rainstick, A Fable, Sandra C. Robinson, Falsomn Press Publishing Co., 1994

Water for the World, Frankly M. Branley, Harper Collins Books, 1992

Water: A Thematic Unit, David Jeffris, Teacher Created Materials, Inc., 1999

Where the River Begins, Thomas Locker, Penguin Putnam Books, 1993

Water Up, Water Down: The Hydrologic Cycle, Sally M. Walker, Lerner Publishing, 1992

A Drop Around the World, Barbara S. McKinney, Dawn Publications, 1998

Water Squeeze, Mary O'Neal, Troll Communication, 1991

The Magic School Bus at the Waterworks, Joanna Cole, Scholastic, Inc, 1990

365 Nature Crafts and Activities, Karen Bledsoe & Candyce Norvell, Publications International

The Water Hole, Graeme Base, Harry N. Abrams

The Everything Kids' Science Experiments Book, Tom Robinson, Adams Media Coporation

Water Dance, Thomas Locker, Voyager Books

Raven Returns the Water, Anne Cameron, Habour Publishing

Down to the Sea, Nicholas, Jay W., Bookpartners

ANSWERS

USE WATER WISELY OUTDOORS

Some water-saving ideas are spinning in this "water wheel". For each numbered suggestion, go around the circle clockwise, reading every other word. (Cross them out as you go.) Keep going until you've read all the words. You can write the five tips in the spaces below.

1. TURN OFF THE HOSE WHILE SPONGING A CAR AND SAVE WATER FOR RINSING.
2. PUT WOOD CHIPS AROUND SHRUBS TO HELP KEEP THE SOIL MOIST.
3. SWEEP WALKS AND DRIVEWAYS INSTEAD OF HOSING THEM OFF.
4. WATER PLANTS IN EARLY MORNING OR EVENING.
5. WATER ONLY WHEN IT'S NEEDED.

1000 gallons of H_2O can run through an outdoor hose in an hour! It's no wonder so much H_2O is wasted outdoors.

CRACK THE CODE

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

Just turn on the faucet and water flows. But where does it all come from? Decode the secret messages below to find the source.

WE USE WATER FROM LAKES AND RIVERS. THIS IS CALLED SURFACE WATER.

SOME WATER COMES FROM WELLS UNDER THE GROUND. THIS IS CALLED GROUNDWATER.

CONSERVA-QUIZ

Water is a vital resource and conserving it is smart. Your brain is also a valuable resource. Use it to connect each question with the right answer.

Conserving water is important because it
a) saves money
b) helps salmon
c) we won't have to build more reservoirs
d) all of the above

How can you save water while brushing your teeth?

Which of the following is the best example of water waste?
a) washing the driveway
b) bathing
c) drinking
d) fires

How much water does the average family of four use each day?
a) 240 gallons
b) 120 gallons
c) 500 gallons
d) 50 gallons

True or False: A faucet that is dripping 60 drops a minute will waste about 8 gallons a day or 240 gallons in a month.

True or False: You can use your water meter to check for leaks.

- True
- 240 gallons
- a) washing the driveway
- Turn the water off
- True
- d) all of the above

TIPS FOR TAPS

brushing, faucets, leaks, shut-off, broom, five, mulch, sprinklers, drip, food coloring, refrigerator, teeth, driveway, full, shorter, toilet, evaporation, hose, sidewalk, trash can

Fill in the blanks below with the words on the left and discover what you can do to save water:

1. Water during the cool part of the day to avoid **evaporation**.
2. Instead of using a **hose** to clean off your sidewalk or driveway, use a **broom**.
3. Take a **shorter** shower in **five** minutes or less.
4. Run the dishwasher and washing machine with **full** loads only.
5. When washing your car, use a hose with a **shut-off** nozzle.
6. Put a layer of **mulch** around trees and plants to slow evaporation of moisture and discourage weed growth.
7. Position your **sprinklers** so water lands on the lawn or garden, not on your **sidewalk** or **driveway**.
8. Check **Faucets** and pipes for **leaks**. Even the smallest **drip** from a worn washer can waste 20 or more gallons a day.
9. Check your **toilet** for leaks by putting a little **food coloring** in your toilet tank. If, without flushing, the color begins to appear in the bowl, you have a leak that should be repaired immediately.
10. Turn off the water while **brushing** your **teeth**. Just wet your brush and fill a glass for mouth rinsing.
11. Don't use your toilet as a **trash can**. Dead bugs and used facial tissue should go in the wastebasket.
12. Keep a bottle of cold water in the **refrigerator** for drinking, instead of letting the tap run until cold.

BELOW THE SURFACE

You can't survive without water. Do you know where to find it? Hope so, because this test could make you thirsty. Draw a line to link each question with the correct answer.

- Give an example of standing surface water. → Lake, ponds, swamps, bogs, marshes
- About how many inches of snow make up an inch of water? → 10 inches
- What type of soil is most likely to allow groundwater contamination? → Sandy
- What are smaller streams that flow into larger streams called? → Tributaries
- Of all the earth's water, how much of it is found in the oceans? → 97%
- Water that runs off hard surfaces is called? → Surface run-off
- What is a geographical area called where all the water drains naturally to one place? → Watershed
- What is the scientific name for the study of groundwater? → Hydrogeology or geohydrology
- What is the name of an artificial lake that stores water? → Reservoir
- What is the name for an underground layer of sand, gravel, or other rock that is a source of groundwater to a well or spring? → Aquifer

WORD SEARCH

Circle, in the puzzle below, the water words listed on the left.

AQUIFER, CONDENSATION, CONDUIT, CONSERVATION, CONSUMPTION, CONTAMINATION, DAM, DISINFECTION, DISTRIBUTION, DROUGHT, EVAPORATION, GROUNDWATER, HYDRANT, INTAKE, IRRIGATION, PIPES, POTABLE, PRECIPITATION, PUMP, RESERVOIR, SOURCE, SURFACE WATER, TRANSMISSION, TREATMENT PLANT, VALVE, WATER CYCLE, WATER METER, WATER SYSTEM, WATERSHED

Moving across the rows from left to right, use the remaining uncircled letters to fill in the blanks below and reveal the water conservation message.

DON'T USE THE TOILET AS A WASTEBASKET AND BE SURE TO TURN OFF THE WATER WHILE YOU BRUSH YOUR TEETH.

H_2O CROSSWORD

ACROSS

1. Layers of soil, sand and rocks that store groundwater.
5. To contaminate, to become unclean.
7. Water that is found underground in the cracks and spaces in the soil, sand and rocks.
9. Groundwater leaves the ground and enters a lake or stream in a _____ area.
10. An example of precipitation.
12. A pipe in the ground that is used to remove water from an aquifer.
13. Water on the earth's surface which moves into a lake or stream without absorbing into the soil.

DOWN

2. The largest use for groundwater is _____.
3. The stage of the water cycle when water changes from liquid to a vapor.
4. Clouds are an example of this.
6. A long period of dry weather could cause a _____.
8. Part of the water cycle when water soaks into the soil.
11. The movement of water underground is called groundwater _____.

STREAMS OF SCIENCE

Show what ya' know about H_2O. Draw a line that connects each question with the correct answer. Put your thinking cap on. It might rain.

- Name the force that causes water to flow down hill. → Gravity
- When tiny drops of water gather together what do they make? → A cloud
- Which of the following is not part of the natural water cycle? a) evaporation b) condensation c) devaluation d) precipitation → c) devaluation
- As molecules of water freeze do they? a) expand b) contract c) neither a or b → a) expand or pull away from each other
- What is water called that is located below the earth's surface in rock crevices? → Hydrologic cycle
- Find the scientific name for the natural water cycle. → Water evaporating from the leaves of plants and trees is called?
- Water evaporating from the leaves of plants and trees is called? → Transpiration
- What is the temperature at which water boils in Fahrenheit? → 212 degrees

WATER, WATER, EVERYWHERE AND NOT A DROP TO WASTE!

USE THESE FACTS TO HELP YOU SOLVE THE PROBLEMS BELOW.

WATER USE FACTS AND FIGURES

How much water does it take to:

Flush the toilet	6 gallons
with a water saving device	4 gallons
with an ultra-low flush toilet	1.6 gallons
Run the faucet without an aerator	5 gallons per minute
with a water saving aerator	2.5 gallons per minute
Take a shower	5 gallons per minute
Run the dishwasher	about 17 gallons per load
Run the washing machine	41-49 gallons per load
Run a garden hose	5 gallons per minute

6:32 AM Dr. Drop, in the bathroom, turns on a faucet without an aerator to brush her teeth. How much water would she use if she leaves the water running three minutes? **15 gallons**
How much water would she use if she turns the water on for 15 seconds to wet her toothbrush and again for 45 seconds with an aerator? **2.5 gallons**

6:35 AM Dr. Drop blows her nose. How much water would she use if she puts the tissue in the garbage can? **None** How much water would she use if she flushes the tissue down a regular toilet? **6 gallons**

6:40 AM Dr. Drop gets in the shower. How much water would she use if she showers until 7:00am? **100 gallons** How much water would she use if she takes a short, five minute shower? **25 gallons**

7:05 AM Dr. Drop, in the kitchen, gets a glass of cold water. Not counting the water in her glass, how much water would she use if the water came from a pitcher of icy water in the refrigerator? **None**
How much water would she use if she lets the water run for one minute without an aerator? **5 gallons**

IT'S A MATCH

Draw a line from each word to its definition.

- Transmission System → Large water pipes over 18" in diameter and pumps used to distribute drinking water from the source to the community
- Distribution System → Pipes; valves to control water flow; and fire hydrants, tanks and reservoirs used in drinking water systems, which deliver water to homes
- Groundwater → Water underground, such as in wells and aquifers
- Water Conservation → Saving, not wasting, water
- Precipitation → Water vapor falling from the atmosphere as rain, hail, sleet or snow
- Consumption → Using up goods and services
- Potable Water → Water that is fit for consumption
- Treatment Plant → A facility for cleaning and treating fresh water for drinking
- Water Meter → A device used for recording the amount of water passing through a pipe
- Disinfection → The act of of destroying harmful microorganisms

WATER AMAZEMENT

START HERE, HOSPITAL, SCHOOL

Underground pipes carry water all throughout your community. Can you find the way water flows from the storage tank to the water fountain? Dive in.

REGIONAL WATER PROVIDERS CONSORTIUM

How Much is Enough?

To determine how much water your sprinkler system applies to your lawn, do the "tuna can test."

1. Set 5 empty tuna cans (or something similar) at various places on your lawn within your sprinklers' range. Place the cans halfway between the sprinklers and the areas that generally receive the least amount of sprinkler water.

2. Turn on your sprinklers for 15 minutes.

3. Measure the depth of the water in each can and record on a piece of paper.

4. Determine the average depth.
   For example: can #1 _____ + can #2 _____ + can #3 _____ + can #4 _____
   + can #5 _____ = a total depth of: _____.

   Divide the total depth by 5 for an average depth of: _____.

5. Use the chart below to determine your watering times.

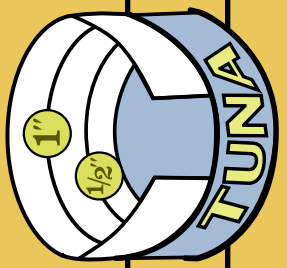
   Find the average water depth in the tuna cans that you set out with your sprinkler.

   The number to the right tells how much time it will take to get 1 inch of water to the lawn during the summer months.

ADJUST YOUR FLOW - THE "INCH" CHART NUMBER OF MINUTES YOU NEED TO WATER TO GET 1" OF WATER PER WEEK	
AVERAGE WATER DEPTH IN TUNA CAN (IN INCHES) AFTER 15 MINUTES	TOTAL WATERING TIME YOU'LL NEED TO GET ONE INCH OF WATER
1/8	120
1/4	60
1/2	30
3/4	20
1	15

Cut on dotted line for tuna can test.

To measure the collected water, place this strip in each tuna can as pictured.



1"

1/2"

Be Water Smart

To learn more about the Regional Water Providers Consortium, or for information on conservation resources and tips, contact your local water provider or visit our Web site at:

www.conserveh2o.org

Printed on recycled paper.