



Let's make it

Clean

NWI Partnership for Clean Water

# Splashing around the Region 2015

REMEMBER  
ONLY  
RAIN IN  
THE DRAIN...



# Water, Water Everywhere

While water is everywhere—in the air around you now, under the ground beneath your feet—there are so many places around the world where lack of water is a severe problem. Read the four statements below. Each is followed by a question. On a separate sheet of paper, write a short essay that you feel answers the question for you.



**1.** Several countries, including Argentina, Chile, and the United States, have discussed the possibility of breaking off huge chunks of ice from the polar ice caps, and floating them to a port city for use as drinking water. Should people be allowed to “mine” the polar ice caps for water?

**3.** The Middle Eastern countries of Israel and Jordan share a common border, the Jordan River. Both countries withdraw their drinking water from that river. If water supplies dry up, will that help or hurt chances for peace in the Middle East?

**2.** Many growing American cities — such as Phoenix, Arizona and Las Vegas, Nevada — are built in deserts, where there is little water. Water must be diverted from rivers to these cities. Should we build cities in deserts? Should the people who live in these cities be required to conserve water?

**4.** More than one billion people live in places where they do not have access to clean drinking water. How can we help make sure all people get the water they need for survival?

# The Water Cycle

It just keeps going and going...

Right now, rivers like the Mississippi and Delaware are dumping billions of fresh water into the ocean. Yet oceans never fill up, rivers always have new water to bring to the ocean, and your faucet never runs out.

How is this possible? The Earth's limited supply of 400 billion gallons constantly moves through the sky and land in a process called the water cycle.

On this page is an illustration of the water cycle. Work in teams of two or three to complete the following activity.

1. Use classroom or library resources to write a definition for each of the words listed.
2. Each Numbered arrow in the water cycle illustration identifies one of the words you have defined. Write the correct number next to each of the words. Can you match every word to its proper arrows?

Evaporation # \_\_\_\_\_

Condensation # \_\_\_\_\_

Precipitation # \_\_\_\_\_

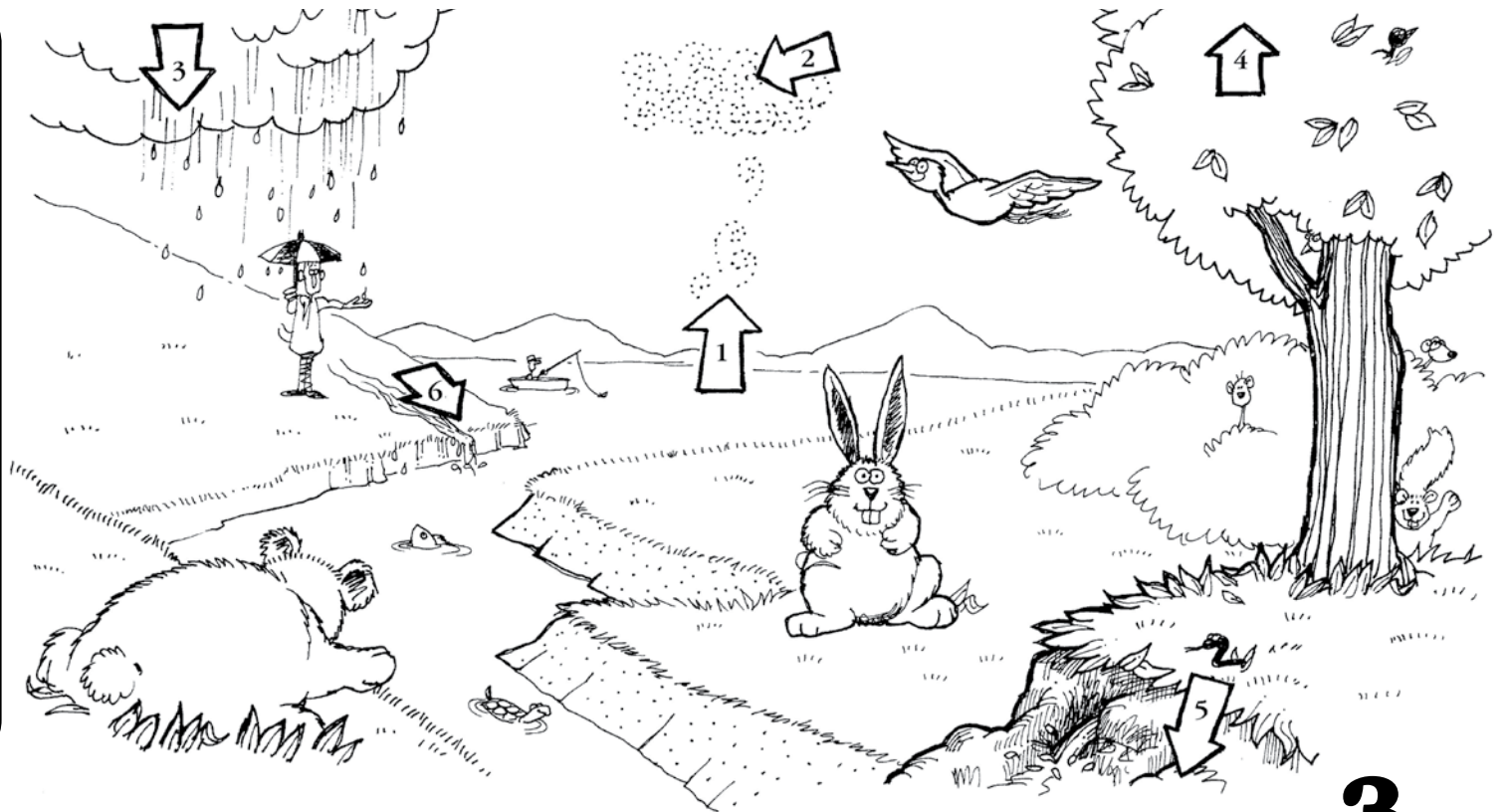
Transpiration # \_\_\_\_\_

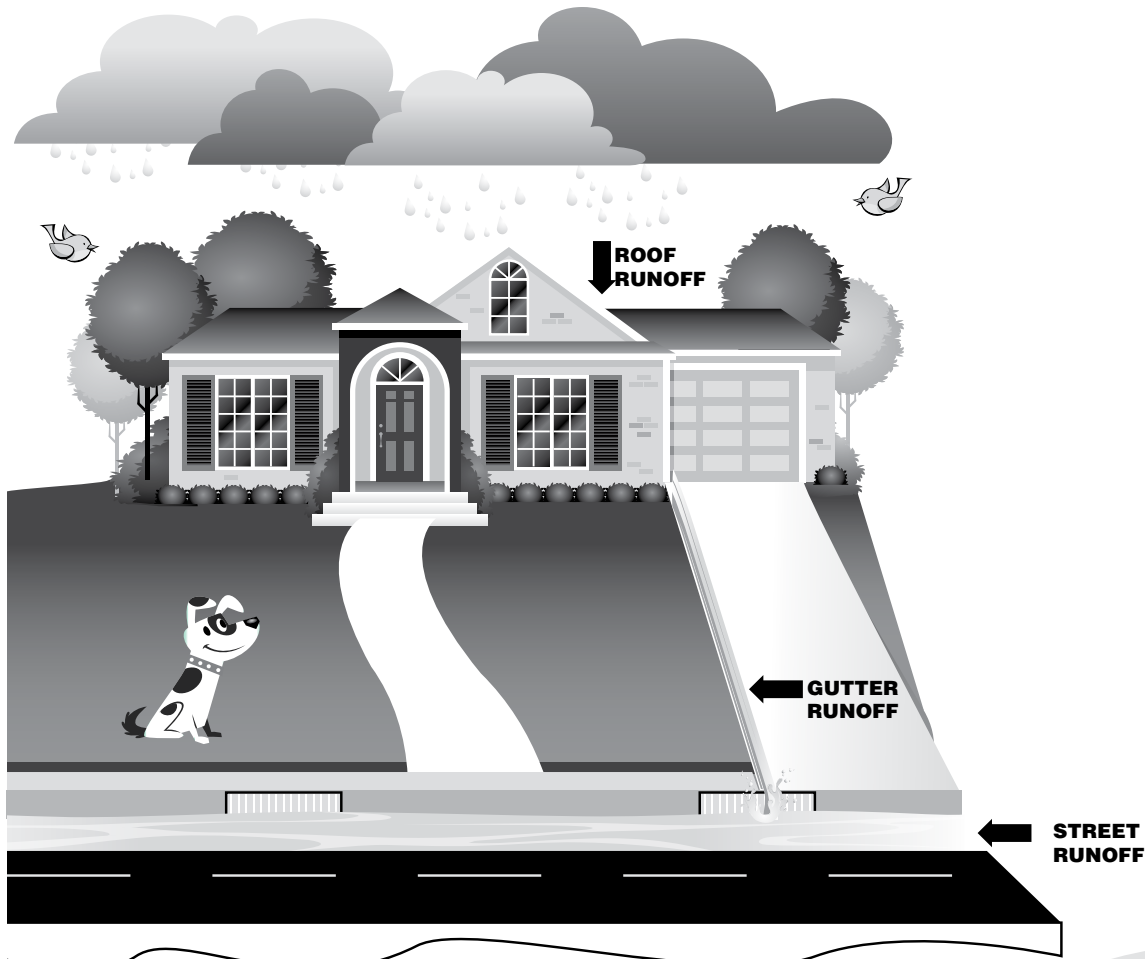
Percolation # \_\_\_\_\_

Runoff # \_\_\_\_\_

## Discussion Questions:

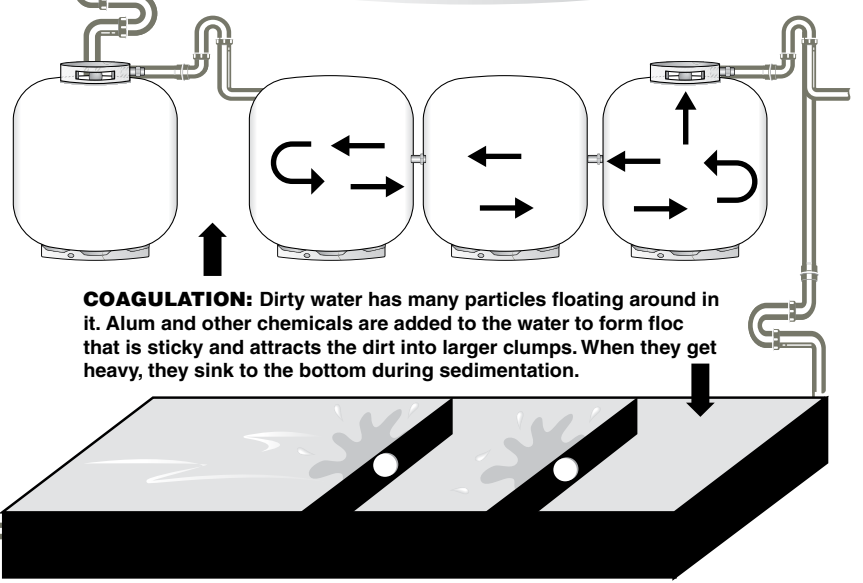
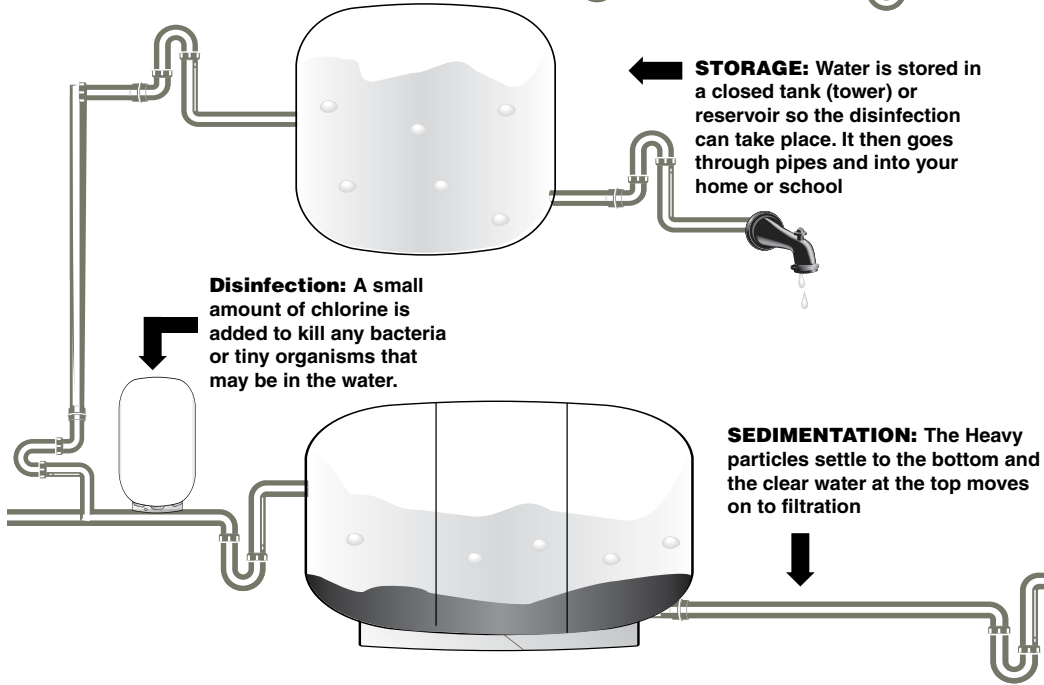
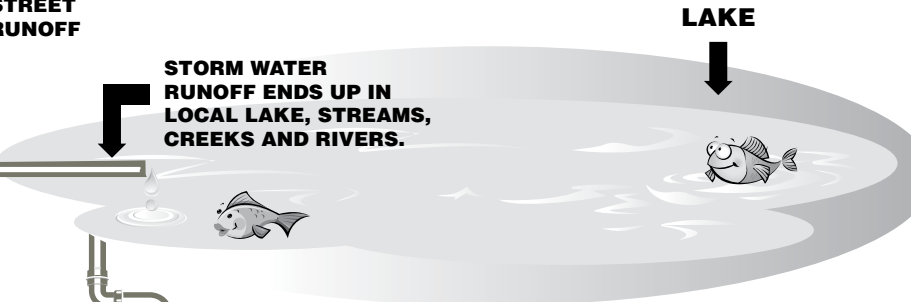
1. Could that be the Pacific Ocean raining on your school? How? Where does rain come from?
2. Is your house part of the water cycle? Does water flow into your house? Where does it come from? Does water flow out? Where does it go?
3. Water needs energy to evaporate. What's the source of energy for evaporation? Does water still evaporate on cloudy days? What happens to the salt in the ocean when ocean water evaporates?





When it rains or when snow melts, storm water flows through pipes or ditches and drains untreated water into lakes, rivers and streams, carrying pollutants with it.

Water can get dirty, so before we can drink it, it must be clean. Water is cleaned at a Treatment Plant and then sent to our homes through pipes.



**FILTRATION:** The water goes through filters often made of sand, gravel and charcoal that will catch even smaller particles that float in the water



# Word Scramble

Put the letters in the right order to complete the sentence.

All living things need \_\_\_\_\_ to live.  
tawer

When water evaporates, it travels into the air and becomes part of \_\_\_\_\_.  
dlocu

Less than 1% of all water on the earth is \_\_\_\_\_ water.  
sefhr

We \_\_\_\_\_ water in the liquid form.  
ikrdn

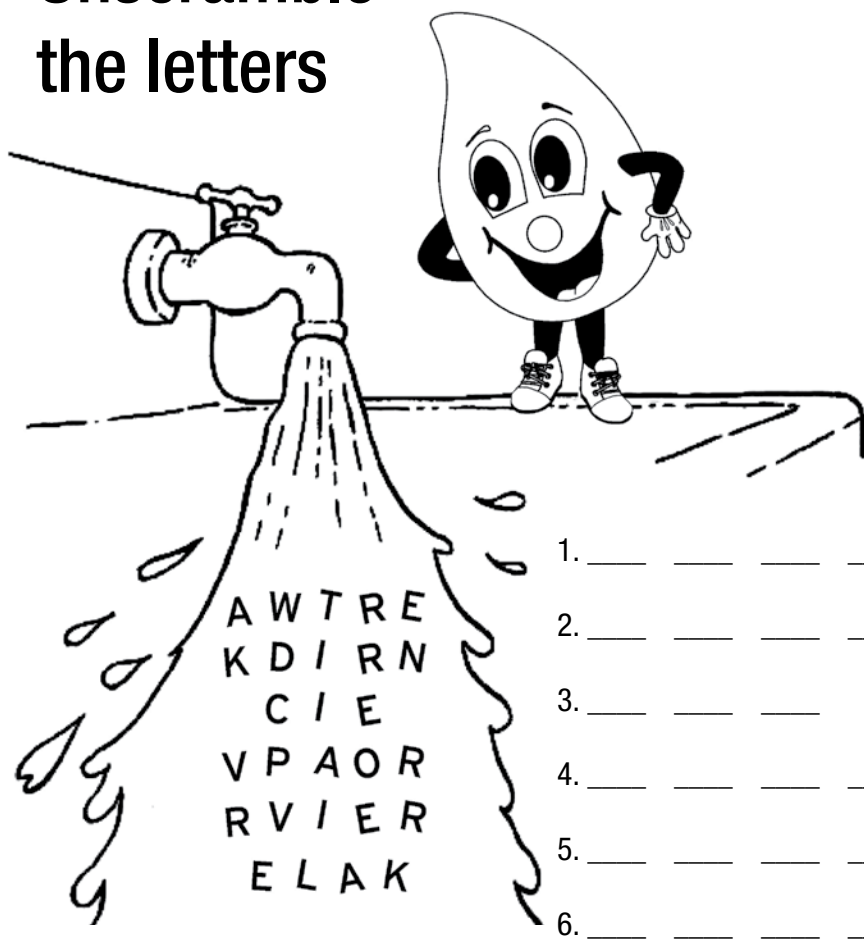
Check for leaks and save hundreds of \_\_\_\_\_ of water a day.  
allogns

You'll save water by taking a quick \_\_\_\_\_.  
howser

Wash bikes and cars with a \_\_\_\_\_ and sponge instead of a running hose.  
kecbut

Ask your \_\_\_\_\_ to look for ways to save water.  
mfayil

# Unscramble the letters



A cartoon water drop character with a face, arms, and legs stands next to a faucet that is leaking water. The water is falling into a pool of water on the floor. The letters are arranged in a grid within the water pool.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

A W T R E  
K D I R N  
C I E  
V P A O R  
R V I E R  
E L A K

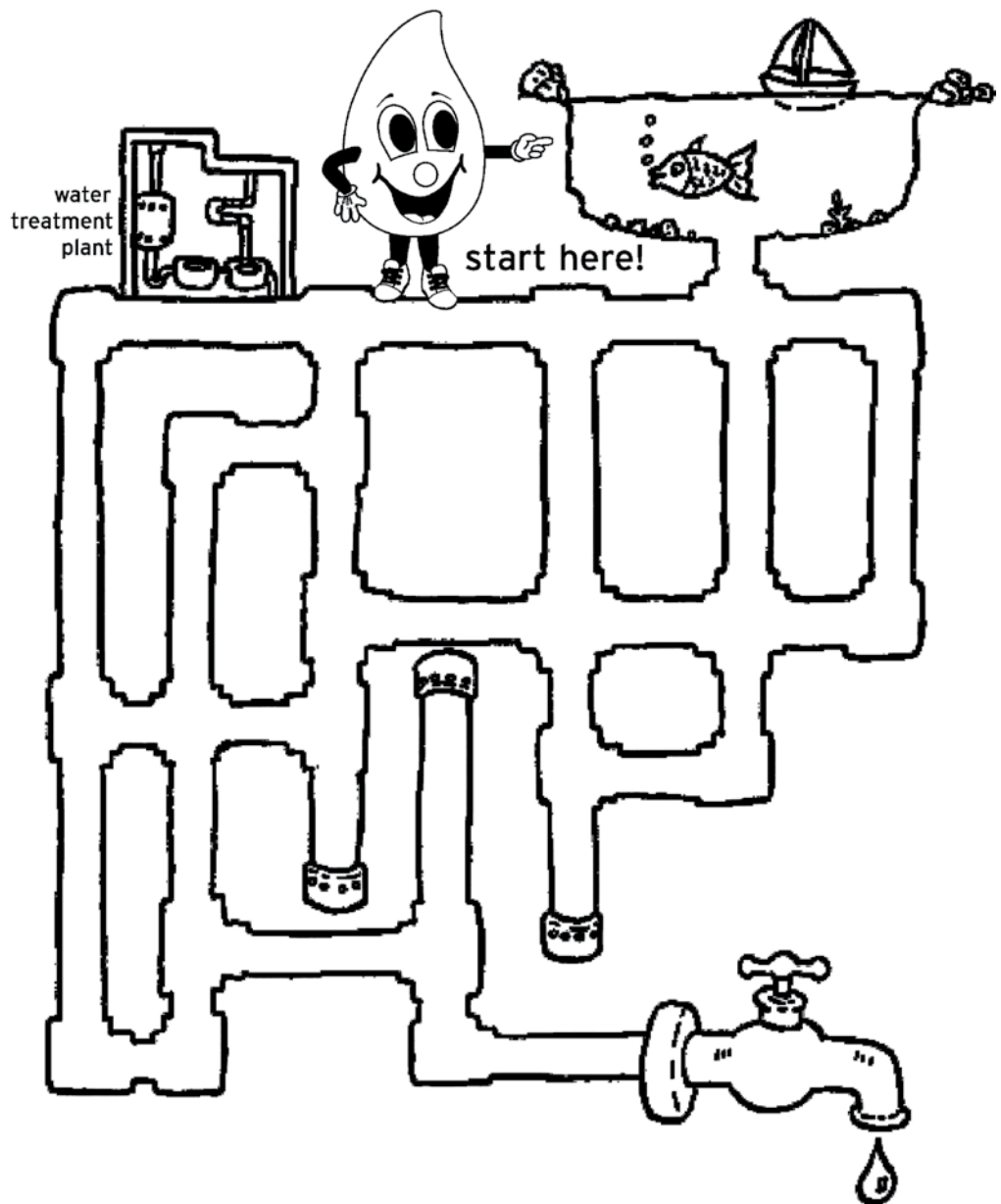
# Matching Game How Much Water?

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

- |   |                   |
|---|-------------------|
| 1. Taking a shower <input type="checkbox"/>                                     | A. 30 gallons     |
| 2. Watering the lawn <input type="checkbox"/>                                   | B. 180 gallons    |
| 3. Washing the dishes <input type="checkbox"/>                                  | C. 4-7 gallons    |
| 4. Washing clothes <input type="checkbox"/>                                     | D. 1/2 gallon     |
| 5. Flushing the toilet <input type="checkbox"/>                                 | E. 39,090 gallons |
| 6. Brushing teeth <input type="checkbox"/>                                      | F. 62,600 gallons |
| 7. Drinking <input type="checkbox"/>  | G. 15-30 gallons  |
| 8. Need to produce one ton of steel <input type="checkbox"/>                    | H. 9.3 gallons    |
| 9. Needed to process one can of fruit or vegetables <input type="checkbox"/>    | I. 1 gallon       |
| 10. Needed to manufacture a new car and its four tires <input type="checkbox"/> | J. 9-20 gallons   |

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

ANSWERS:



Help the water find its way from the lake to your faucet by following the correct path through the pipes.

## POWER WORDS

**CONSERVE** - Using natural resources, such as water, in a way that doesn't harm them or use them up.

**EVAPORATES** - To change from a liquid into vapor and disappear

**GROUNDWATER** - Water found in the ground in cracks and spaces between rocks and soil particles.

**HAZARDOUS MATERIALS** - Materials that can cause harm to people or the environment.

**PERMEABLE** - Able to be absorbed (kind of like a sponge)

**POLLUTION** - An undesirable change in air, water or land that can cause harm to human health, animals or plants. Hazardous chemicals and animal waste, for example, can be pollutants.

**TOXINS** - Harmful substances

**WATER QUALITY** - "Quality" means how good or bad something is. Water must be good quality, with very few pollutants, before we can drink it safely.

**WATERSHED** - An area of land where all water drains, or "sheds," to the same river reservoir or other body of water.

# Water MATH

1. If the average American family of four uses 243 gallons of water, how much does the average person use? *You would figure it out like this:*

$$\begin{array}{r} 243 \text{ Gallons} \\ \div 4 \text{ People} \\ \hline \end{array}$$

\_\_\_\_\_ Gallons

2. If each American uses as much water as you have just figured out above, then how much water does your classroom use every day? *You would figure it out like this, don't forget to count your teacher:*

$$\begin{array}{r} \text{Answer to Question \#1} \\ \times \text{ The \# of People in Classroom} \\ \hline \end{array}$$

\_\_\_\_\_ Gallons

3. Not all families are an "average American family of four." Your family might be larger, or smaller. How many people live in your house? How many gallons of water does your house use everyday? Does your household use less or more water than 243 gallons? *HINT: Multiply the answer from question #1 by the number of people in your house.*

$$\begin{array}{r} \text{Answer to Question \#1} \\ \times \text{ The \# of People in Your House} \\ \hline \end{array}$$

\_\_\_\_\_ Gallons

4. There are 8 pints in one gallon. Your school's milk is sold in half pint. How many cartons of milk would you have to collect to hold as much water as you personally use in one day? *HINT: Divide the answer from question #1 by the number of half pints are in a gallon.*

$$\begin{array}{r} \text{Answer to Question \#1} \\ \div \text{ \# of half pints are in a gallon} \\ \hline \end{array}$$

\_\_\_\_\_ cartons of milk

5. If a drip uses 50 gallons a day, then how much water would the typical American family of four use in one day if it had a dripping faucet?

$$\begin{array}{r} 243 \text{ Gallons} \\ + 50 \text{ Gallon Drip} \\ \hline \end{array}$$

\_\_\_\_\_ Gallons

## OPTIONAL

When you go home tonight, ask a parent how many gallons of water the household uses. The information can easily be found on your water bill. Use your house's water bill to determine if you use more or less than the typical American family does.

## Newspaper Activity:

THE TIMES

New information often introduces you to new words. Look up the words in the water cycle, such as condensation, percolation, transpiration, evaporation, to be sure you know what they mean. Now read the headlines of a few stories in your newspaper and choose two or three you're interested in. Read the articles, circling any words you do not know. Look those words up in the dictionary, too.

With your parent or teacher's help, do some research on household hazardous waste and the proper ways of disposing of it. (Your local waste management company should be able to help you.) Once you have all your information, create a public service newspaper-style advertisement to educate people on household hazardous waste.

# A Watershed Is...

No matter where you live, there is a watershed. A large watershed, for example the Hudson River Watershed in New York, is an area of land that drains into a specific body of water like a river, stream, or lake. It includes everything within its borders: all the land, air, plants and animals; mountains, deserts, cities and farms; even people, their stories and traditions. Within a large watershed there are many small

watersheds which contain streams that drain into it. It is also part of a larger watershed that contains all the streams that drain into it.

Protecting watersheds is important because they support everything from the water we drink and use to grow food, to water for industry, transportation, and wildlife. Clean drinking water depends on clean source water, like springs.

Protecting source water is an important part of watershed protection.

Every watershed is different, but the old saying holds true for all watersheds: we All Live Downstream. This means we're all watershed neighbors and share responsibility for protecting our watersheds. To protect our watersheds, we need to first understand what a watershed is...

## Activity

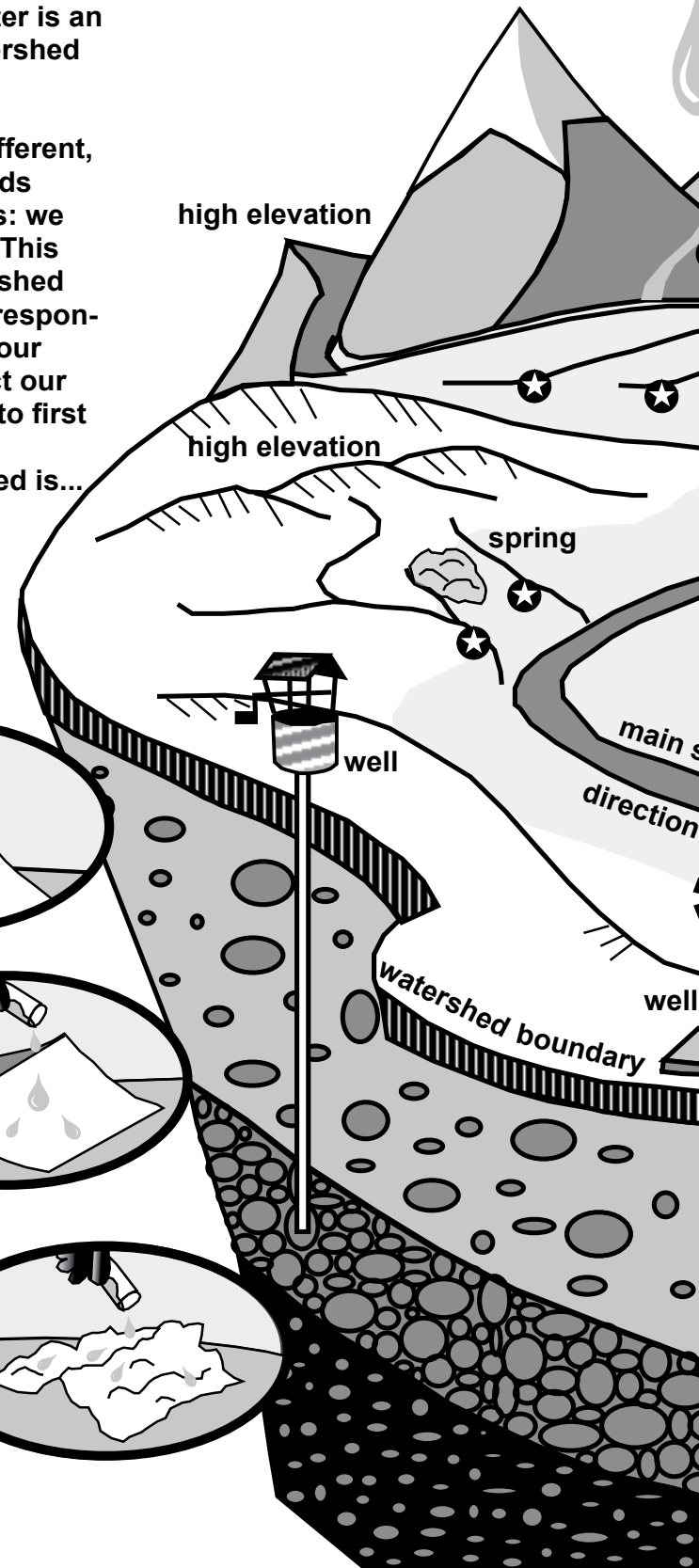
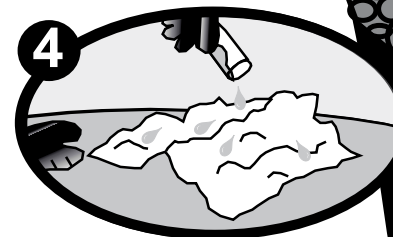
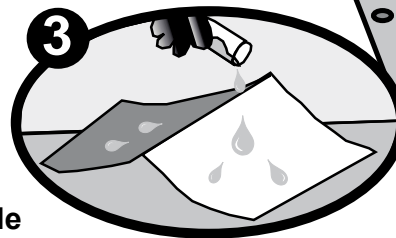
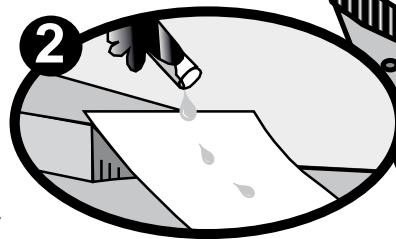
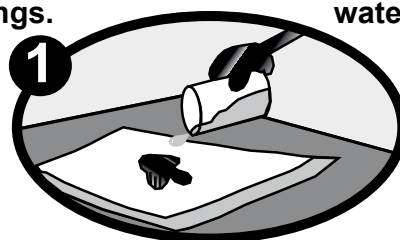
- ① Water falls as rain or snow. Place a drop of water on a flat sheet of wax paper. Does it run off the paper? If water falls on a flat surface, it may not run off or drain.
- ② In what direction does water flow? Using a piece of wax paper, raise one end. Drip water from a cup onto the paper. It should flow downhill. Did it flow downhill?
- ③ How are watersheds divided? Fold your wax paper in the center into a tent. Drip water from a cup onto the peak. Down which side does the water drain - left, right, or both? The peak represents the boundary between two watersheds, and the water flows down whichever side it falls on. Watersheds are divided at their highest points.

Learn what you can do to be a good watershed neighbor and protect your watershed by trying these actions at home.



Keep it clean: Participate in a river, pond, or highway cleanup project.

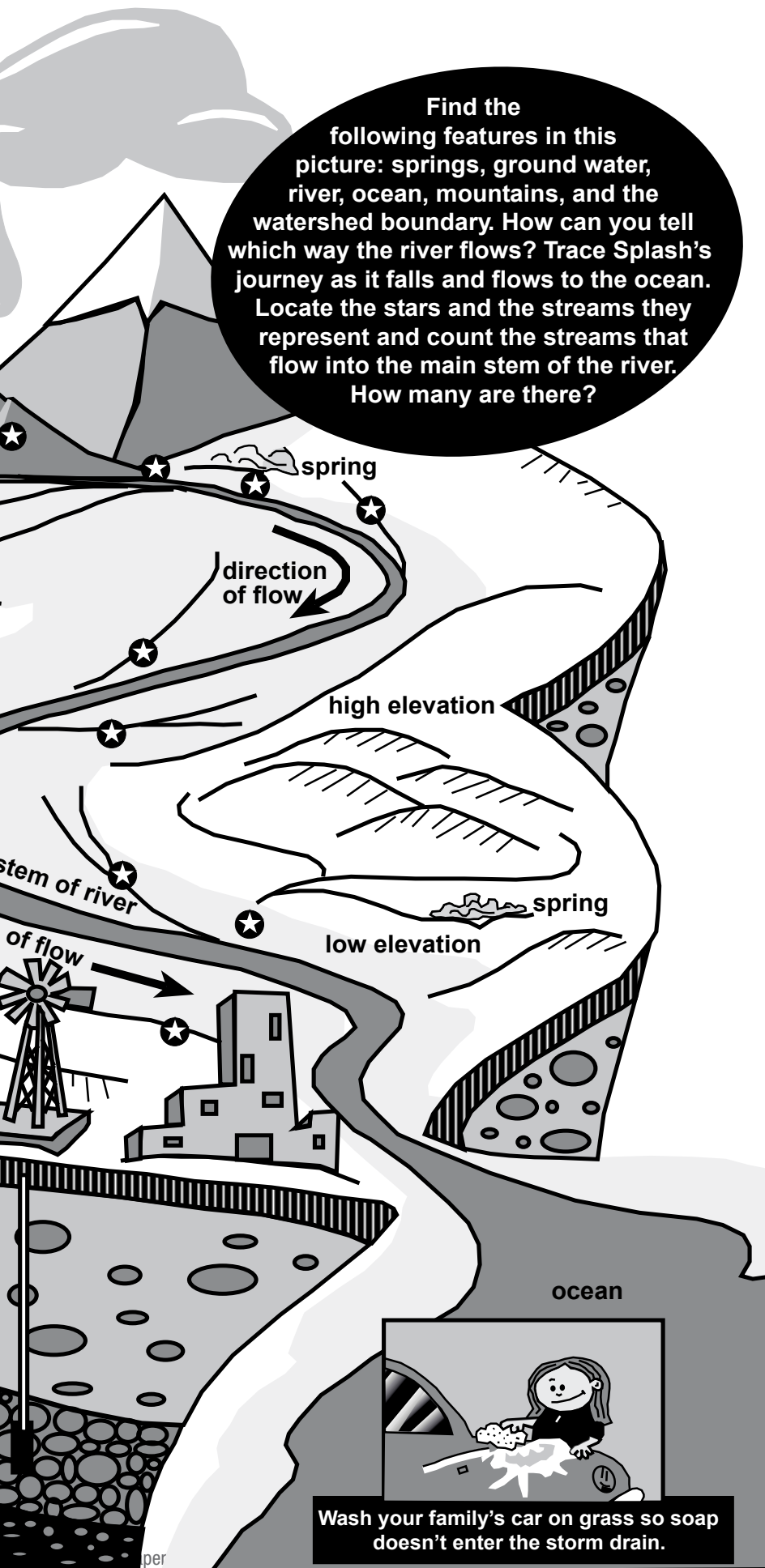
- ④ Are large watersheds made up of smaller watersheds? Loosely crumple your wax paper. Drip water onto the peak again. Does the water follow a crease or line as it flows? Does it pool in spots? What watershed features could these represent? Large watersheds may contain many smaller watersheds, each with several streams and lakes.



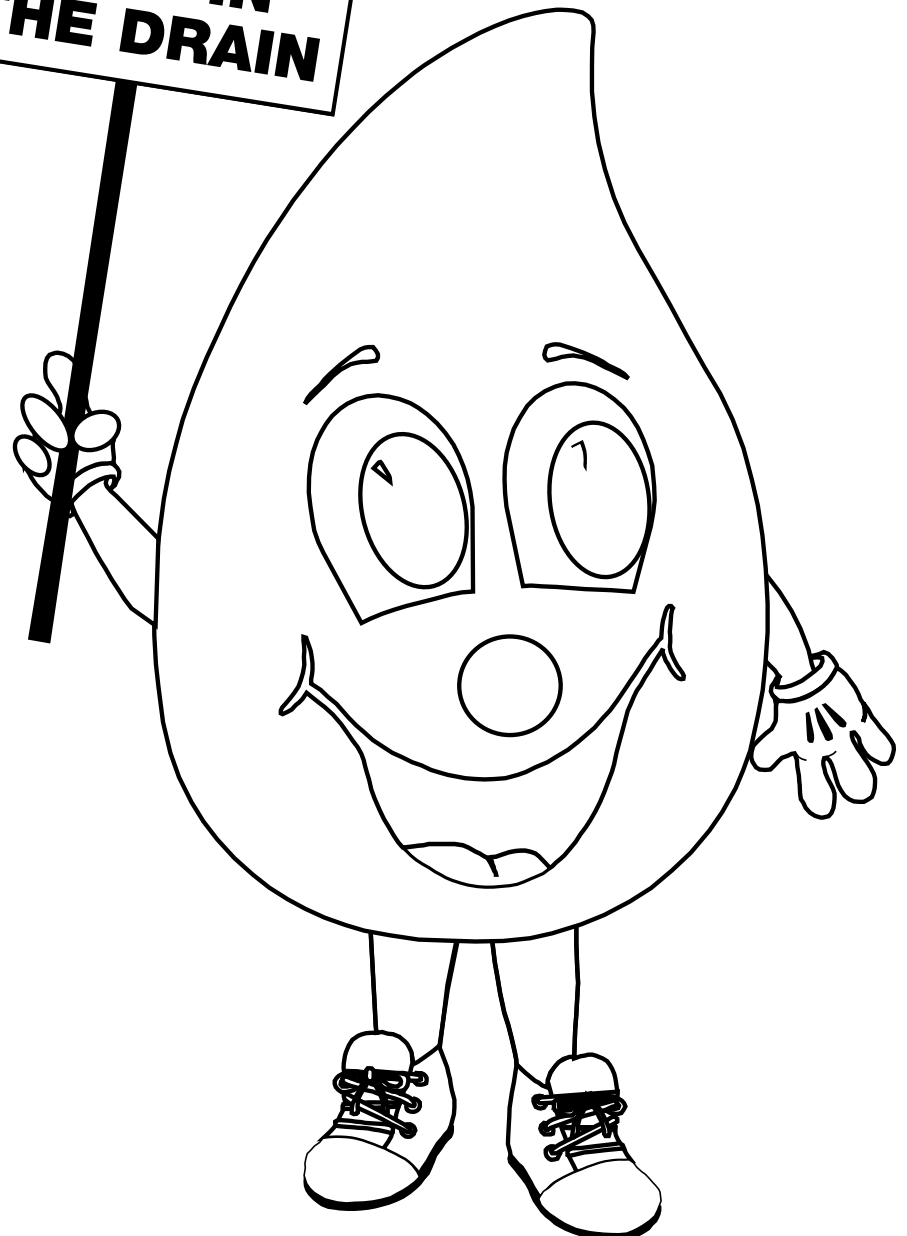


# COLOR SPLASH!

Find the following features in this picture: springs, ground water, river, ocean, mountains, and the watershed boundary. How can you tell which way the river flows? Trace Splash's journey as it falls and flows to the ocean. Locate the stars and the streams they represent and count the streams that flow into the main stem of the river. How many are there?



**REMEMBER  
ONLY  
RAIN IN  
THE DRAIN**



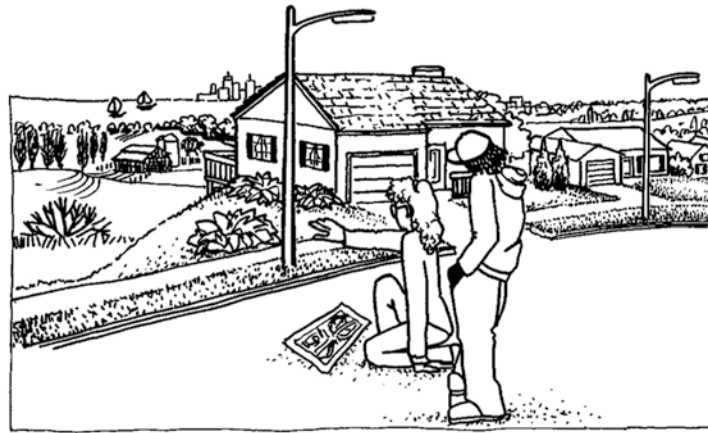
# Focus on Water

To keep water clean or to make sure there is plenty to drink, we need to understand where water comes from, how it flows and how it's used at home, in schools, on farms or ranches, and in the community. In other words, it's time to get to know your watershed!

## What to do

### A

Go outside and survey your surroundings. You can start anywhere — at your home, school, farm, or even downtown. Go to the highest point you can see within easy walking distance. If possible, go to the highest point in your community.



### B

Look over the land and the way the ground slopes down from this high point. If it rained, where would water flow? You're looking at a watershed or several watersheds. That is the area of land where all water drains, or "sheds" to the same body of water.

Walk around this area. Look for the following things in your watershed. Make a list of what you see.

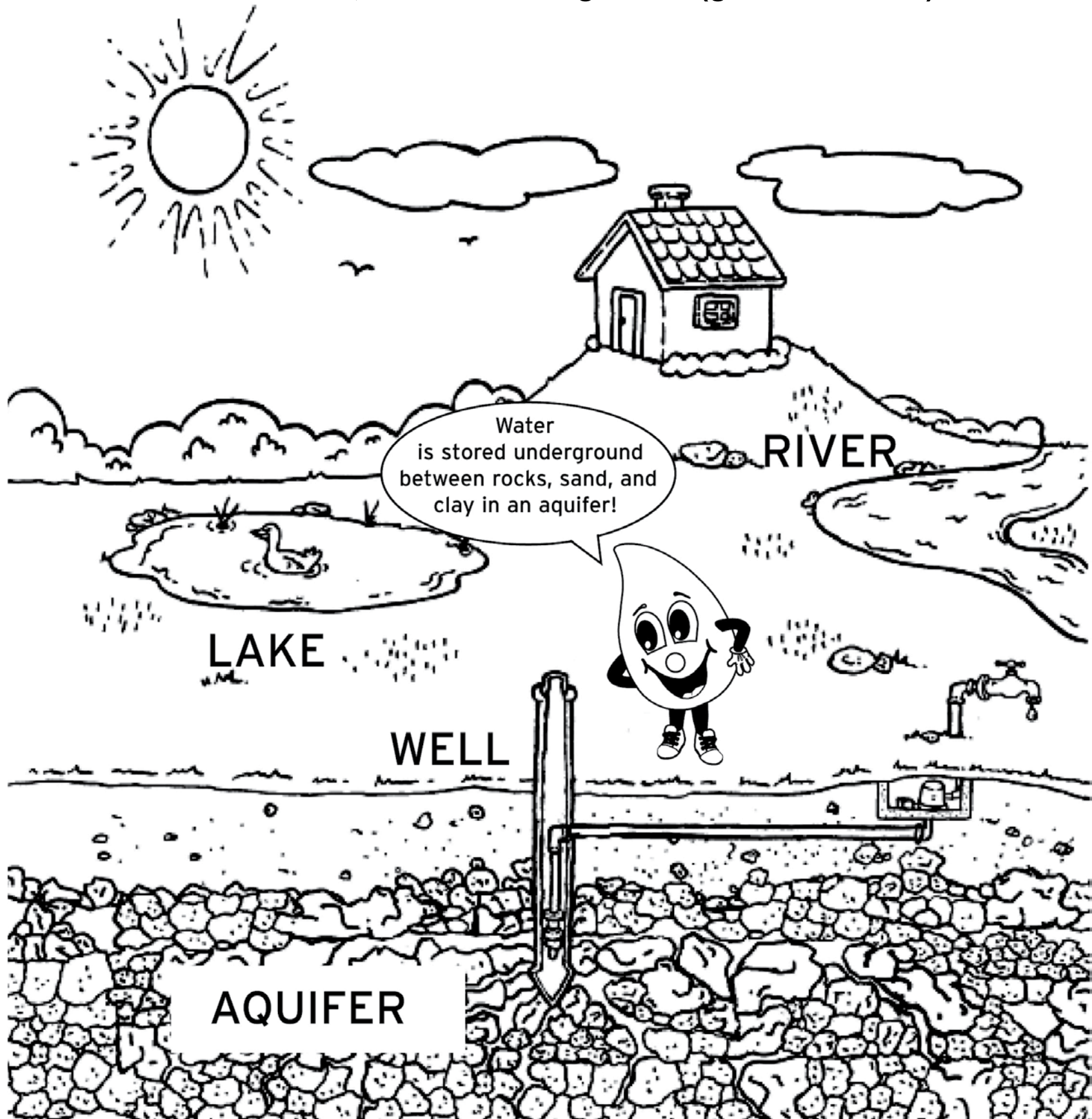
In my site, water flows to:

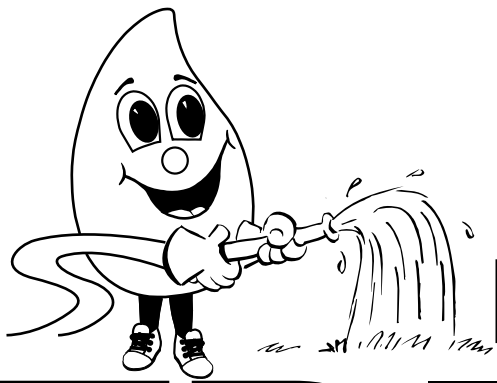
- low points
- gutters
- storm drains
- ditches
- lakes/streams/rivers/ponds
- culverts
- \_\_\_\_\_

On its way, it passes:

- bare soil
- vegetation (grass/trees/shrubs)
- wells
- streets
- shopping centers
- parking lots
- industry
- school
- houses
- litter
- farms
- animals
- \_\_\_\_\_

Drinking water comes from lakes, rivers,  
streams, or under the ground (ground water.)





## Play Water

# TRIVIA

1. How long can a person live without water? \_\_\_\_\_
2. How much water pipe is there in the US & Canada? \_\_\_\_\_
3. What were the first water pipes made of in the US? \_\_\_\_\_
4. How much water is used in a 5-minute shower? \_\_\_\_\_
5. How much water does one person use in a day? \_\_\_\_\_
6. How much of the earth's surface is water? \_\_\_\_\_
7. How much of the earth's surface water is drinkable? \_\_\_\_\_
8. Water freezes at what temperature? \_\_\_\_\_
9. Water boils at what temperature? \_\_\_\_\_
10. How much of the human body is water? \_\_\_\_\_

A - HOLLOWED OUT LOGS

B - 80%

C - ABOUT 1 WEEK

D - 66%

E - 1%

F - 32 DEGREES F, 0 DEGREES C

G - ABOUT A MILLION MILES

H - 25-50 GALLONS

I - 212 DEGREES F, 100 DEGREES C

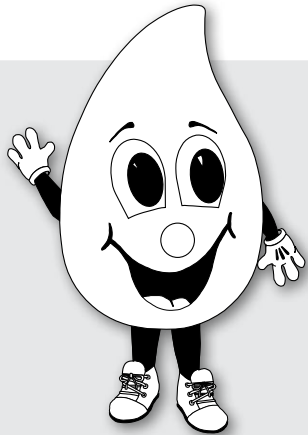
J - 50 GALLONS

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



- Every person in America uses about 160 gallons of water a day.
- 2/3 of the water your family uses is used in the bathroom.
- You use 2 gallons of water to brush your teeth (*unless you turn off the faucet while you brush*).
- Less than 1 percent of all the water on earth is available or clean enough to drink. The rest is salty or frozen.
- Water treatment removes dirt and germs from lake water.
- The water on the earth today is the same as the water that was here when the Earth was formed and when the dinosaurs lived. We keep using the same water over and over and over.
- Families turn on faucets about 70 times a day. (*National Drinking Water Alliance, Blue Thumb Campaign*)
- You could survive about a month without food, but you could only survive 5 or 6 days without water.
- One gallon of gasoline spilled on the ground can pollute 750,000 gallons of water.
- To stay healthy, you need 2/3 quarts of water each day.
- Your body is 2/3 water.
- Your brain is 3/4 water.
- A tree is 3/4 water.

# Water Conservation



## At Home

This is water conservation week. Discuss as a family and write down the many ways your family uses water every day. Be sure to include dishwashers, laundry, baths, cooking, etc. Review this list as a family and decide on five ways the family can conserve water this week. Write your results down at the end of the week.

## School list

If you hold car washes at school, do you use water conserving practices?

- Do you use buckets of water rather than a hose?
- Do you wash cars in a grassy area so that the water does not run into storm sewers? (Use non-hazardous cleaners and use care not to over-saturate soil or tear up grass from car tires.)

Looking Good!  We need more information. Priority 1 2 3

What we found out \_\_\_\_\_

We need more info about \_\_\_\_\_

Does rainwater flow from the school parking lot into a grassy area or does it flow into a storm drain or stream?

Water flow into a grassy area may reduce the amount of watering that needs to be done in that area and keeps parking lot contaminants from going directly into the water supply.

Looking Good!  We need more information. Priority 1 2 3

What we found out \_\_\_\_\_

We need more info about \_\_\_\_\_

Are grass clippings swept off the sidewalks and parking lots for composting so that they do not wash into storm sewers?

Looking Good!  We need more information. Priority 1 2 3

What we found out \_\_\_\_\_

We need more info about \_\_\_\_\_

## Newspaper Wordplay



From the time you were a baby, you've been storing up words that you understand and use. These words make up your vocabulary. Most people add new words to their vocabulary as they grow and learn. The more words they know, the better they're able to communicate.

Newspapers, of course, are filled with words.

### ACTIVITY

Some of them are familiar; some of them are not. Scan your newspaper for words that are unfamiliar to you. Pick five and, based on how they're used in the newspaper, write down what you think they mean. Compare your definitions with those in the dictionary.

Find one new word in the newspaper each day. Look up each new word in the dictionary, then write sentences with them. Think of synonyms (words with similar meaning) and antonyms (opposites) for each.

### ACTIVITY





# The Ripple Effect

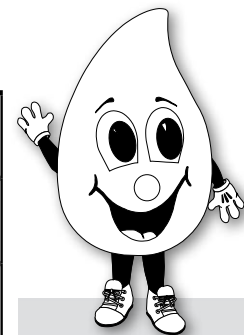
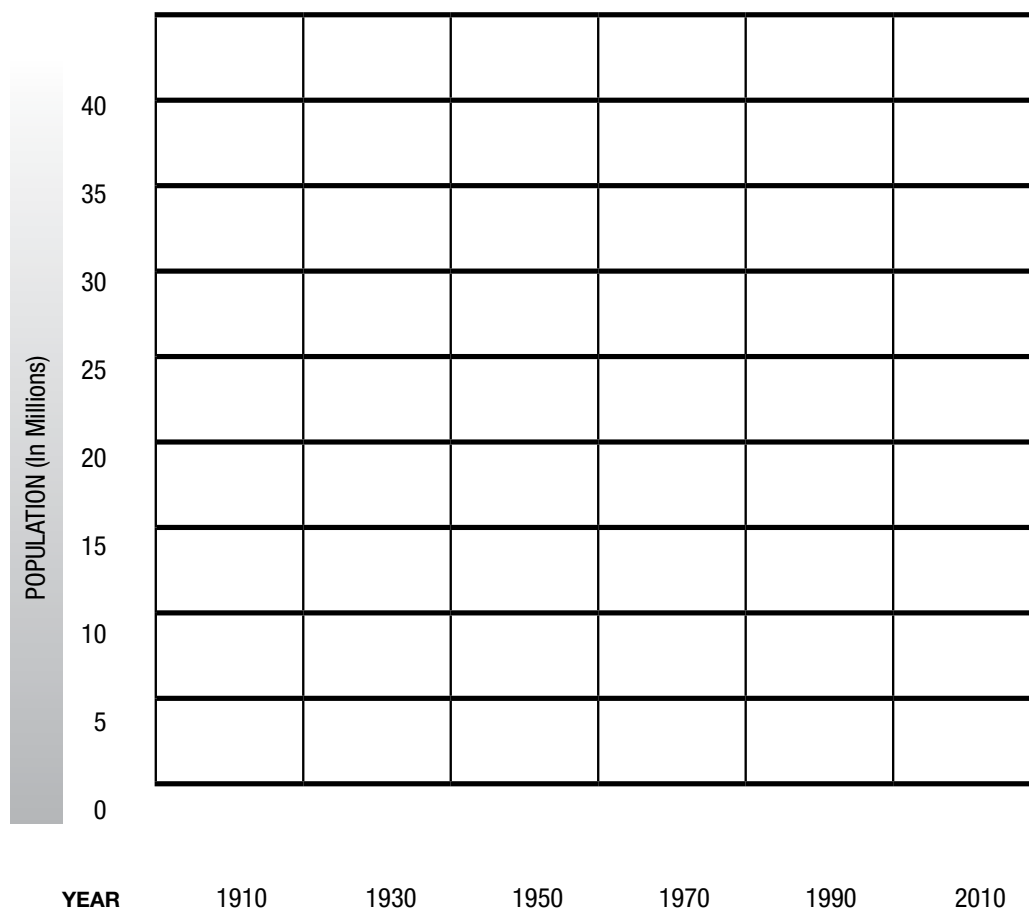
## Populations Pressure

In 1850, as many as 1.2 million people lived in the Great Lakes Basin - but not for long. By 1900 the population was 11.5 million. This means more than 10 million people moved into or were born in the area during those 50 years! The population growth spurred industrial growth, causing declining water quality as pollution from sewage, fertilizers, pesticides and industrial waste made its way into the lakes. Fortunately, Great Lakes citizens rose up in 1970 to counteract the damage to the lakes. To learn more about the Alliance for the Great Lakes' 40-year history of protecting the Great Lakes, visit [www.greatlakes.org](http://www.greatlakes.org)

### DIRECTIONS:

Create a bar graph of the Great Lakes Basin population (in millions) during the last century.

1910 - 12.5 million people  
1930 - 17.4 million people  
1950 - 22.7 million people  
1970 - 30.8 million people  
1990 - 33 million people  
2010 - TBD million people



### DID YOU KNOW...

- **Great Lake Compact** regulates water quality in eight great lakes states.
- **Great Lakes Water Quality Agreement** "virtually eliminates" the discharge of toxic substances.
- **Adopt-a-Beach™** volunteers totaling more than 7,000 remove and monitor litter and test water quality.

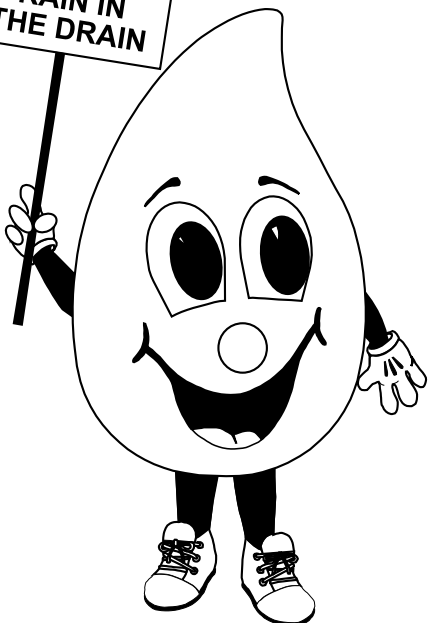
"Great Lakes in My World" is a K-8 curriculum kit developed by the Alliance for the Great Lakes. For information on Great Lakes educational activities and resources or to learn more, e-mail [education@greatlakes.org](mailto:education@greatlakes.org) or call 312-939-0830 X226

# 10 Things You Can Do

## to Prevent Stormwater Runoff Pollution

1. Use fertilizers sparingly and sweep up driveways, sidewalks and roads.
2. Vegetate bare spots in your yard.
3. Have your septic tank pumped and system inspected regularly.
4. Compost your yard waste.
5. Avoid pesticides; learn about Integrated Pest Management (IPM).
6. Check car for leaks; recycle motor oil.
7. Direct downspouts away from paved surfaces.
8. Pick up after your pet.
9. Take your car to the car wash instead of washing it in the driveway.
10. Never dump anything in storm drains.

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ONLY  
RAIN IN  
THE DRAIN**



**FOR MORE  
INFORMATION  
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# Your Game Plan

While we must use water every day, we should think carefully about how much we really need to use. Conservation means we wisely consume the resources that keep us alive, like water. Below is a list of ten conservation actions you could take.

If you were asked to conserve water, which of the ten actions would you take first? Place a "1" next to that action under the column labeled "me." What would you do second? Rank that "2." Place numbers next to each of the 10 actions, ranking them in order from those you would do right away, to those you would do last.

Now pair up with someone in your class. Check out his or her list. What would he or she do first? Copy his or her rankings in the column labeled "friend." Where do your rankings agree? Where do they disagree? Why?

## Conservation Actions

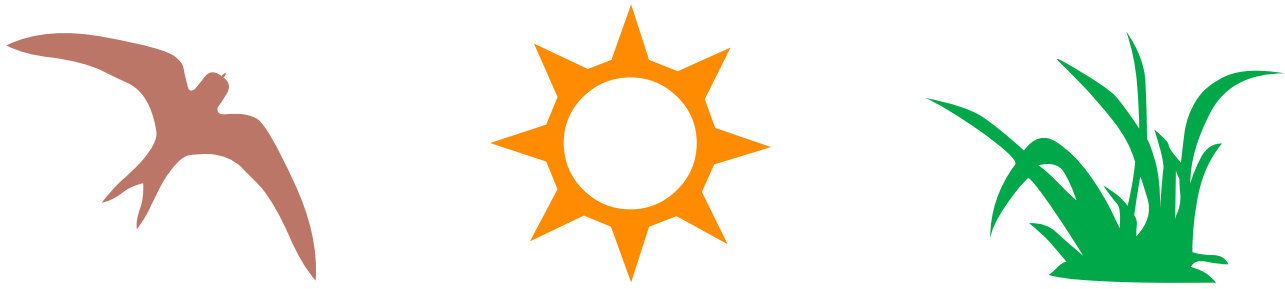
Me

Friend

_____	Take shorter showers	_____
_____	Turn off water while brushing	_____
_____	Water the lawn and garden at night	_____
_____	Fix leaky faucets	_____
_____	Flush the toilet less	_____
_____	Install a toilet dam or bottle*	_____
_____	Install a low-flow shower head**	_____
_____	Use less water while washing dishes	_____
_____	Take a shower instead of a bath	_____
_____	Do not dump paints and chemicals down the drain	_____

\* A toilet dam is an inexpensive device installed in your toilet's water tank to cut down on the amount of water that's flushed. Some people instead put a brick or a bottle in the back of the tank to accomplish the same thing.

\*\*These are shower heads available in stores that use a lot less water than normal shower heads.



# THANK YOU!

**The Times NIE program thanks**

Let's make it



**Clean**

NWI Partnership for Clean Water

Be part of the  lution. *Stop stormwater pollution.*

**for sponsoring Newspapers in Education**

