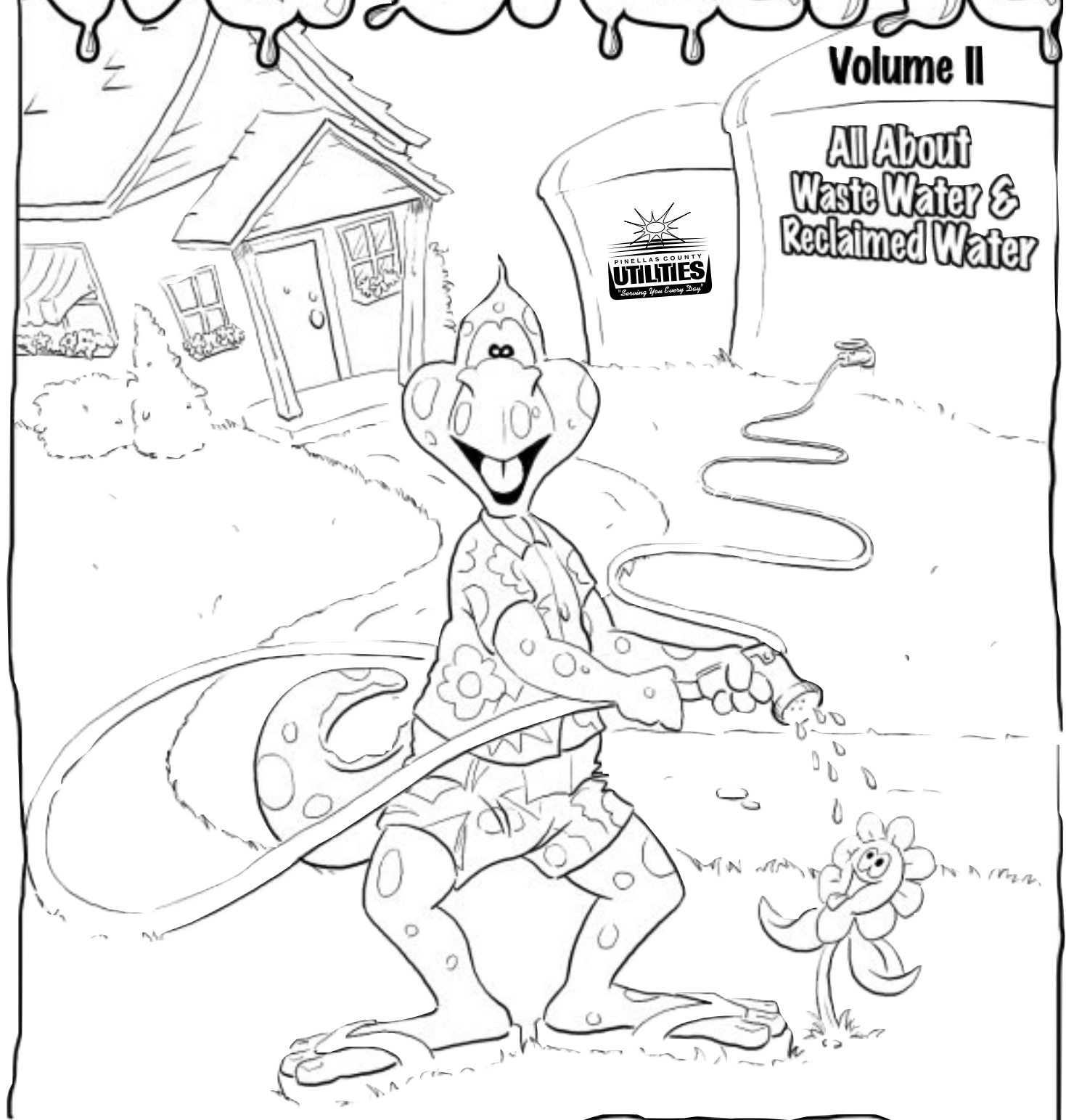


# THE Lewey The Lizard Presents

# WET GAZETTE

Volume II

All About  
Waste Water &  
Reclaimed Water



# What IS WASTE WATER?

1



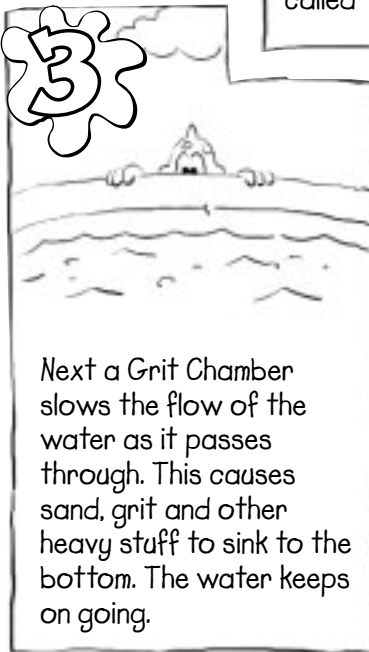
"Wastewater" is the water that leaves our home through the drains and enters a set of pipes called "sewer" pipes.

2



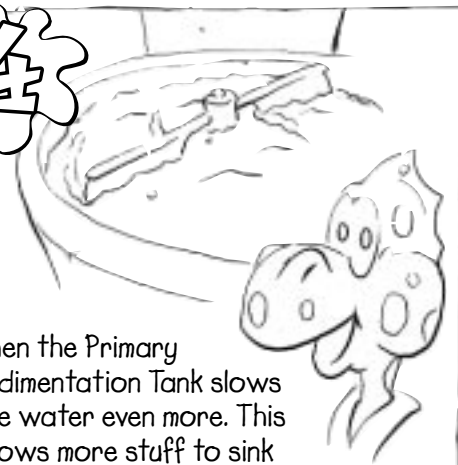
This water travels through the sewer pipes to the Wastewater Treatment Plant. When it gets there, Bar Screens let the water pass through but not trash like rags or sticks.

3



Next a Grit Chamber slows the flow of the water as it passes through. This causes sand, grit and other heavy stuff to sink to the bottom. The water keeps on going.

4



Then the Primary Sedimentation Tank slows the water even more. This allows more stuff to sink to the bottom. Skimmers collect grease and scum that's floating on the top.

5



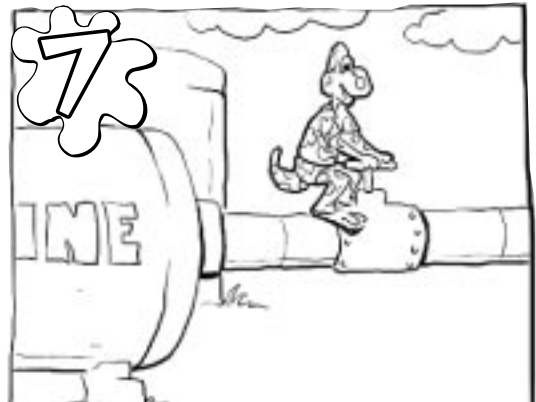
After water passes through the Primary Sedimentation Tank, an Aeration Tank puts millions of bubbles into the water (aeration). This causes the water to absorb oxygen and speeds up the growth of helpful Microorganisms.

6

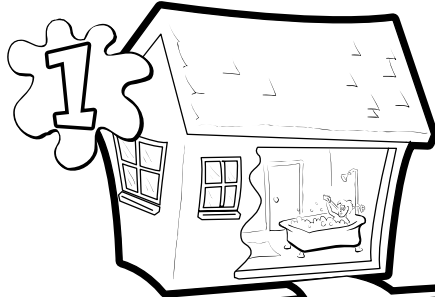


Once the water has been properly Aerated, it enters a Secondary Sedimentation Tank. Here we remove any solid stuff (sludge) that remains.

7



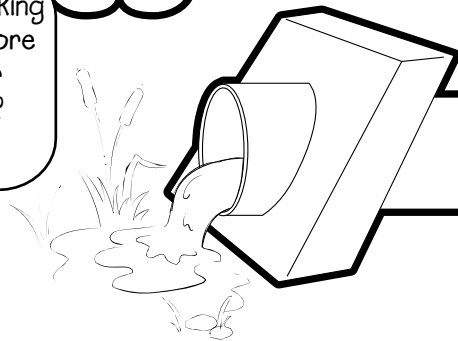
The last thing we have to do is add something called a Disinfectant. This will kill any disease-causing organisms and ensures that the water is safe to return to nearby waterways.



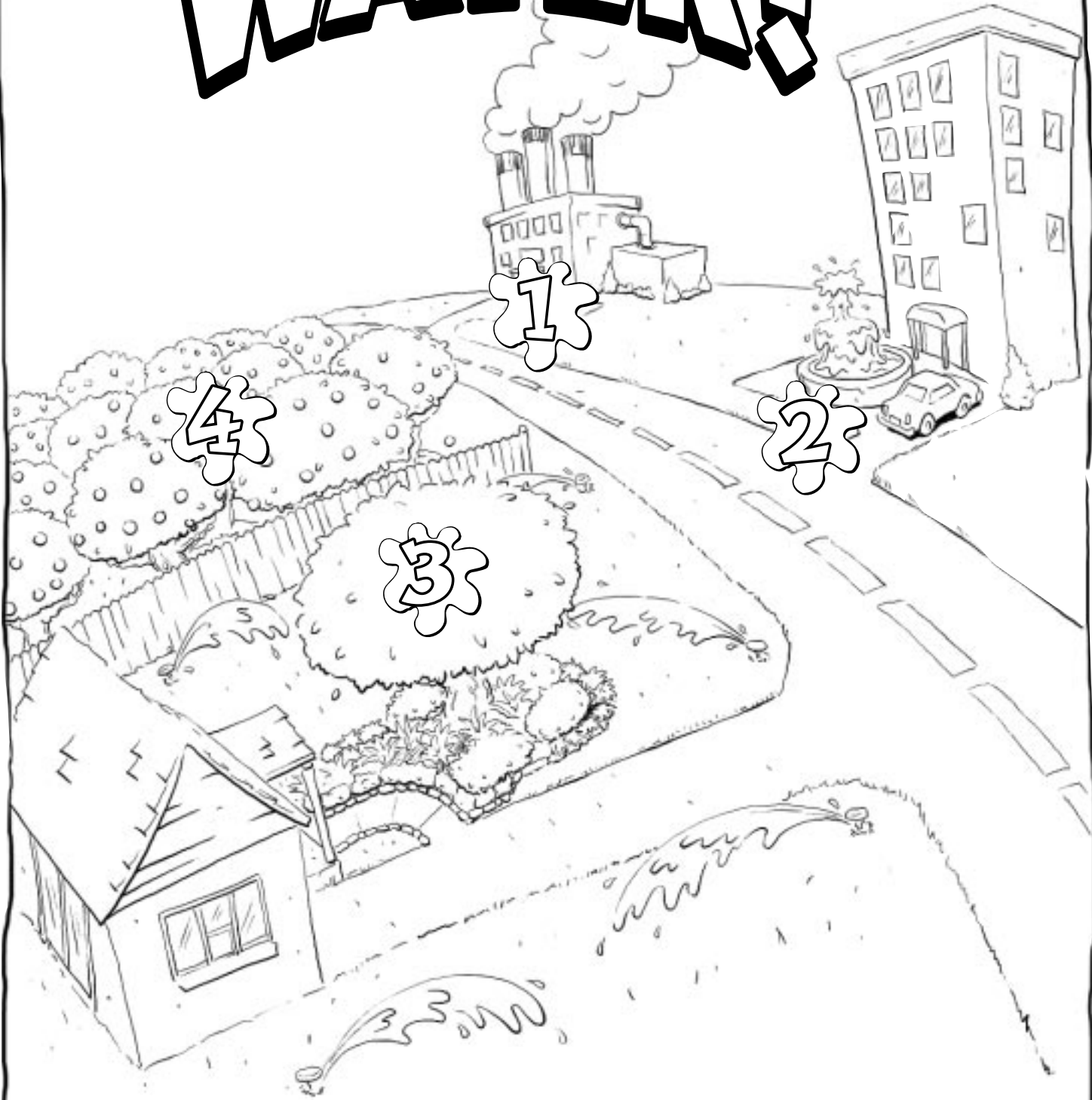
Of all the water on earth there's only a tiny bit that we can drink. The rest is frozen or full of salt. We'll never have any more (or less) water than we have right now! Once we use it we have to clean it and use it again, and again, and...



**But WAIT!** We can save our drinking water by using this water some more before we send it back into our environment! Do you know how?  
**Turn the page...**



# RECLAIMED WATER!



Reclaimed water contains lots of nutrients and things that **we** can't drink but plants love. So, before we send it back into the Hydrologic Cycle, let's see if you can think of some things we could use it for.

1

Factories can use Reclaimed Water to cool down equipment and flush out pipes!

2

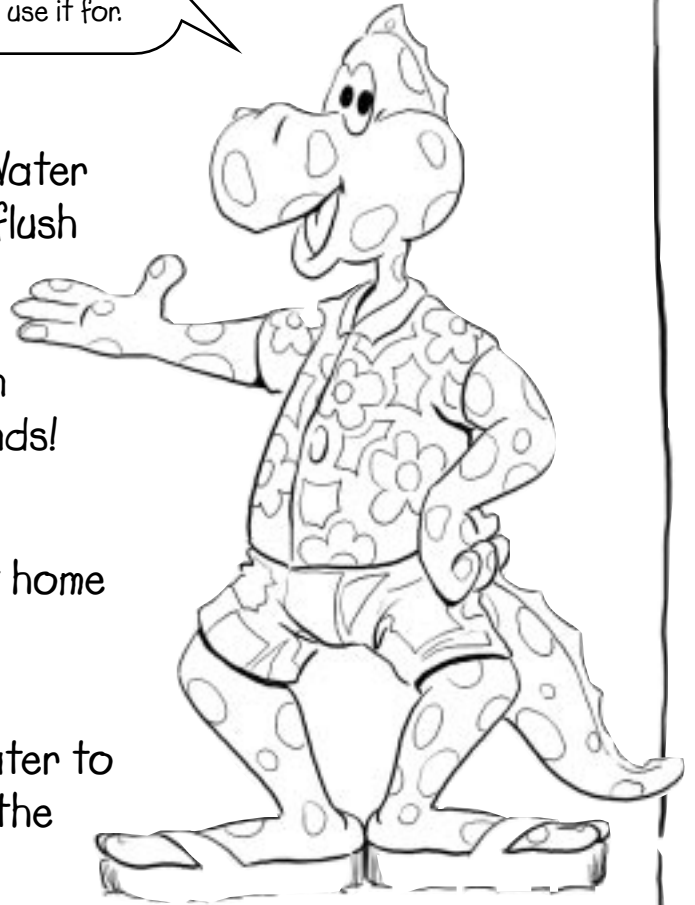
We can use Reclaimed Water in decorative fountains and ponds!

3

Your lawn and landscaping at home love this Reclaimed Water!

4

Farmers can use Reclaimed Water to irrigate some of their crops, the extra nutrients make great fertilizer!



**And it's much less expensive to use!**

List some ways that you use water in your life:

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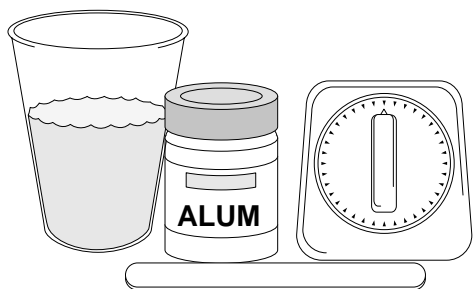
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# The Science of CLEAN WATER!



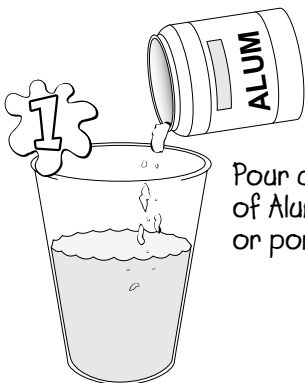
## Sedimentation:

This experiment will demonstrate how "Sedimentation Tanks" work at a wastewater treatment facility. When we use water all sorts of things get dissolved in it. Here's one way to get them out.



### Here's what you'll need:

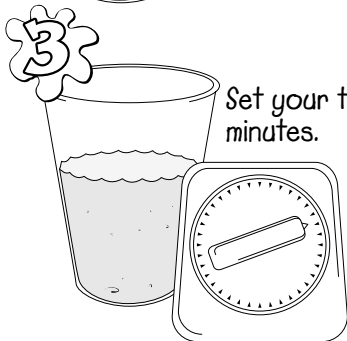
- Plastic cup about 1/2 full of pond or rain water.
- About 1 tablespoon of Alum.
- A stirring stick.
- An ordinary kitchen timer.



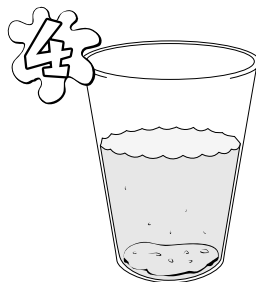
1 Pour about 1 tablespoon of Alum into the cup of rain or pond water.



2 Stir this solution until all of the Alum dissolves.



3 Set your timer for ten minutes.



4 Now look and see what is on the bottom of your cup of water. This is all of the solid stuff that was "dissolved" in the water.

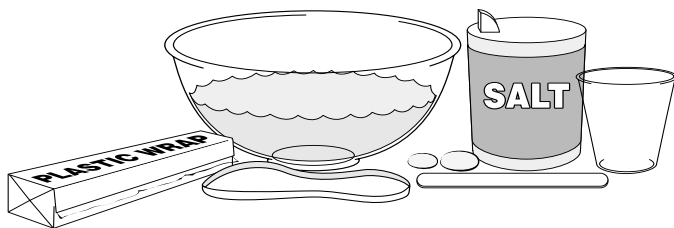
**Summary:** Rain water & pond water have many solids dissolved in them; sand, grit, etc. The Alum "binds" on these solids and brings them out of solution and makes them heavy so they settle to the bottom of your cup.



# The Science of CLEAN WATER!

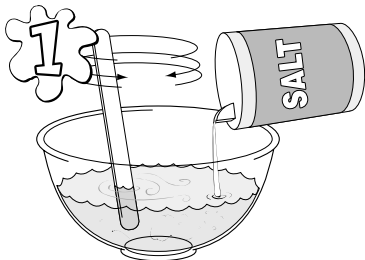
## Distillation:

Here is another way to get solid stuff out of water. For example, do you know how you can make saltwater into freshwater? Try this experiment and learn how!

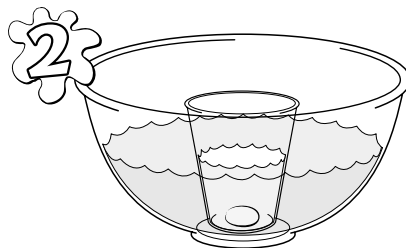


### Here's what you'll need:

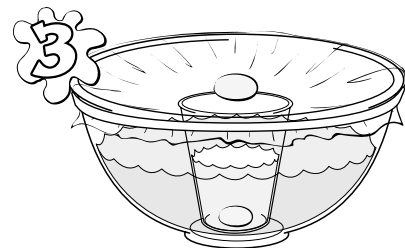
- A large bowl about half full of warm water.
- Salt.
- A small plastic cup.
- Plastic wrap.
- A stir stick.
- Two small, clean stones.
- A large rubber band or some string.



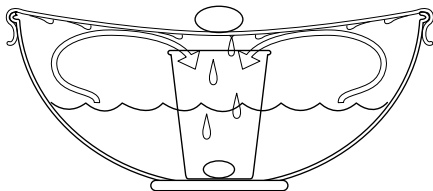
1 Stir about one cup of salt into the bowl of warm water.



2 Immerse the empty cup in the saltwater. Weigh it down with a stone if necessary.



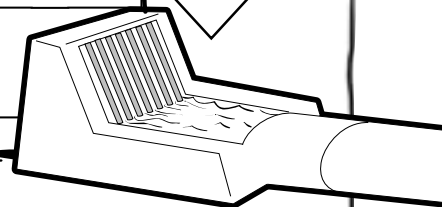
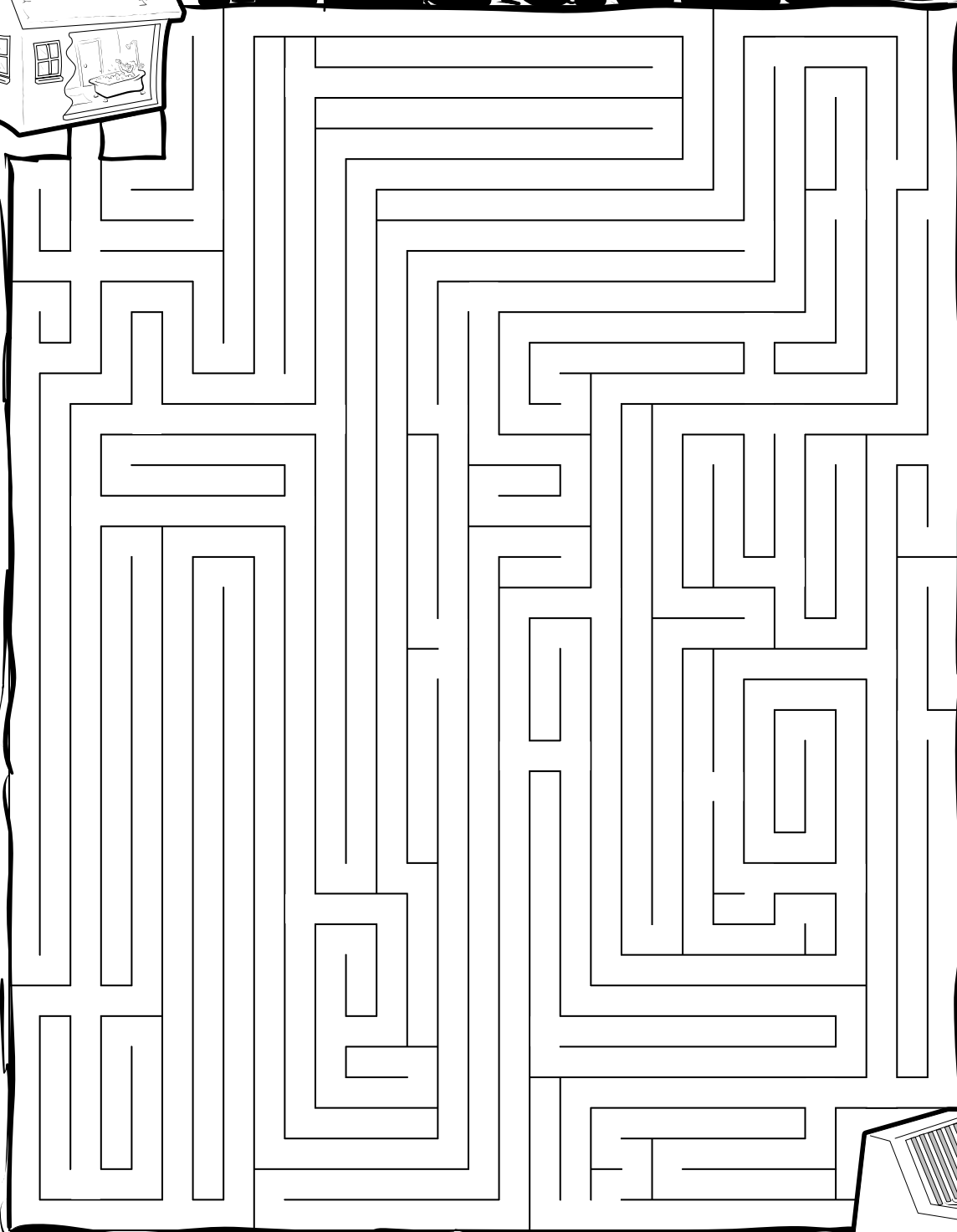
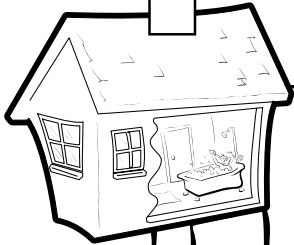
3 Stretch plastic wrap over the top of bowl and place a small stone over the cup. Don't let the plastic wrap touch the cup though. Now place the bowl in the sun and check from time to time to see what's happening.



**Summary:** As the bowl is warmed by the sun the water begins to evaporate and condense on the plastic wrap. The salt is left behind and freshwater runs down the plastic wrap and falls into the cup.

Where does water go when it leaves your home through the drain pipes? See if you can find your way from Lewey's house to the Treatment Plant in the maze on this page, have fun!

# MAZE CRAZE



Solution on back cover.



# WORD SAFARI



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

CONSERVATION  
PIPES  
IRRIGATE  
TANK  
RECLAIMED  
RAIN  
FERTILIZER  
RECYCLE  
SLUDGE  
RESERVOIR  
TREATMENT  
WASTEWATER

Let's go on a Reclaimed Word Safari.

Read the words in the column on the right and draw a line through it where it appears in the scrambled letters above. See if you can find them all! Words may be found forward, or diagonally.

Solution on back cover.

# RECLAIMED WATER DO'S



**Your grass and most of  
your plants love  
Reclaimed Water,  
use it to  
water them!**

**Reclaimed Water is  
perfect for decorative  
fountains and  
ponds!**



# RECLAIMED WATER DON'TS

Reclaimed  
Water  
Do Not Drink



**You or your pets  
should NEVER drink Reclaimed Water!**



**You should NEVER use Reclaimed  
Water for swimming or bathing!**

# RECLAIMED WATER FUN FACTS

Did you know...

It takes 4 to 5 houses  
to make enough  
Reclaimed Water for  
1 house to use.

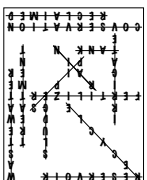


Reclaimed Water acts like a  
fertilizer for your grass and  
plants AND helps us all to  
save our drinking water

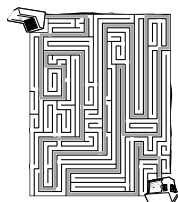
Purple is the universal color  
for Reclaimed Water. If you  
see a purple pipe or hose  
then you know it holds  
Reclaimed Water.



Solutions for puzzles from pages 8 & 9.



Word Safari



Maze Craze

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