Town of Jupiter Utilities

Presents

ALL ABOUT WATER

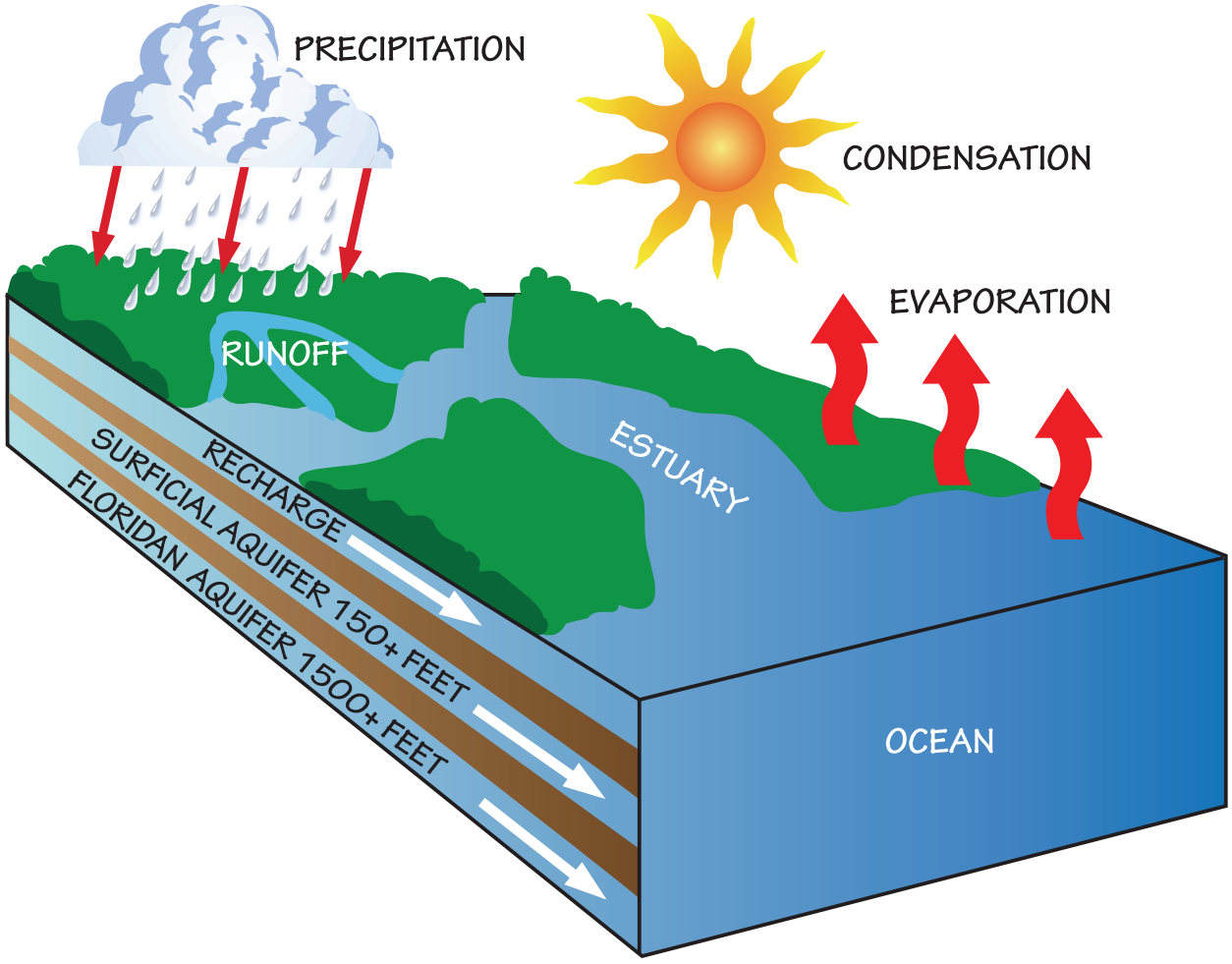
Do You Know Where Your Water Comes From?

Water comes from many sources but they all work together in the **water cycle**.

The most noticable step in the water cycle is called **precipitation,** which can be rain, sleet, snow, or hail. Rain falls to the ground and some of it seeps into the ground refilling the undergound layers of sand. This is called **recharge**. When the water seeps down into the recharge area it also fills the **aquifers**. An aquifer is often considered an underground river.

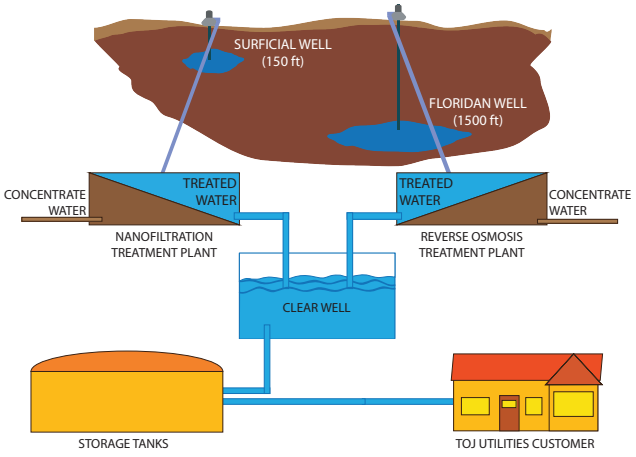
The precipitation that does not soak into the ground creates **runoff** water that travels over the ground surface and helps fill lakes and rivers.

When the sun heats up, another part of the water cycle begins: **evaporation**. The sun heats up the earth's surface, causing water to turn into vapor. The warm vapor continues to rise until it reaches cooler air. It **condenses** to create very small water droplets and form clouds. Then the cycle begins again.



Water Treatment, How Much Do You Know?

When you get water from your faucet it isn't just water straight from the ground. Your drinking water goes through a process called water treatment. The Town of Jupiter uses deep wells that pull water from underground rivers known as aquifers. Then several processes are used to clean your water.



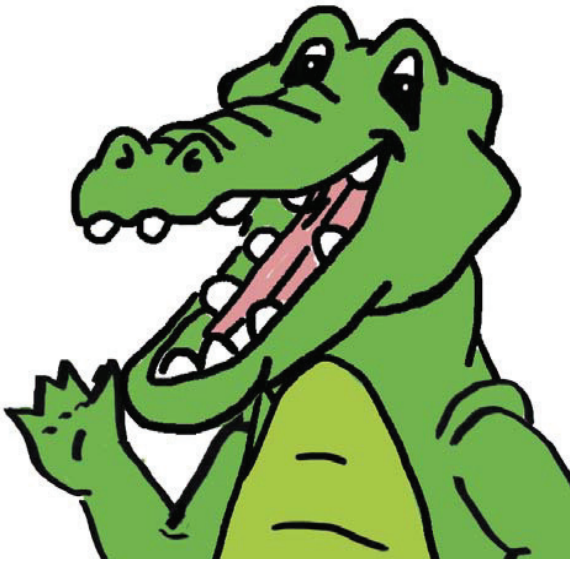
First, water is pumped out of two different aquifers known as the surficial and Floridan aquifers. The surficial aquifer is about 150 feet underground and the Floridan aquifer is 1,500 feet underground. The water that comes out of the surficial aquifer is fresh, while the water that comes from the Floridan aquifer is brackish. Brackish water is water that is a mix of both salt and fresh water.

After the water is pumped from the wells it is then sent to the water treatment plant. At the plant the water is run through two different treatment processes: reverse osmosis and nanofiltration.

Fresh water from the surficial aquifer is treated by the nanofiltration water treatment process and water from the Floridan aquifer is treated by reverse smosis.

Both nanofiltration and reverse osmosis use membranes to filter and remove contaminants from the water. After the water has been filtered, it goes on to be treated by chemicals such as chlorine. Treating the water with chemicals kills bacteria and further purifies the water. Once the water has been treated it moves to storage tanks and then is pumped to your house. During every step of the treatment process the water is tested for quality. Testing is done every day to make sure that what is produced by the water plant is safe for you to drink and meets Federal and State regulations.

Let's Review



1. Your drinking water comes from _____ different aquifers.
2. The _____ aquifer is 1,500 feet under ground.
3. The _____ aquifer is 150 feet undergound.
4. Both treatment processes use _____ to filter the water.
5. The water has to be _____ to make sure it is safe and meets Federal and State regulations.

Water Word Search

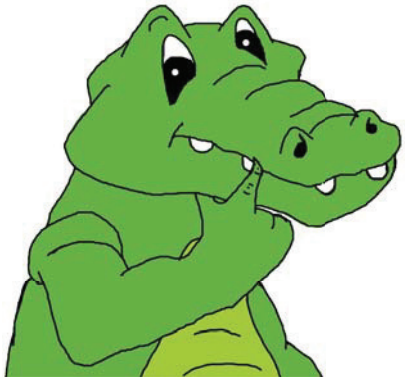
JUPITER
WATER PLANT
OCEAN
RIVER
AQUIFER
WELLS
SURFICIAL
FLORIDAN
REVERSE OSMOSIS
NANOFILTRATION
CONSERVATION
LEAK
WATER
FAUCET
SPRINKLERS

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

Can You Fill In The Blanks?

Fill in the blanks in each sentence buy using the code below:

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



Rain, sleet, snow, and hail are all types of _____.

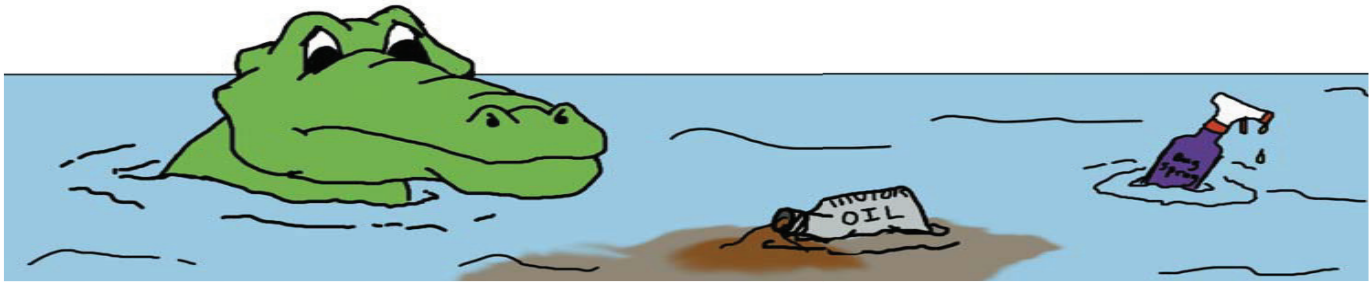
Evaporation turns liquid water into _____.

An underground river is known as an _____.

Water has three forms: _____, _____ and _____.

Water that does not soak into the ground is called _____.

Pollution And Conservation



Water treatment plants try to make the least amount of waste while cleaning our water. There are ways you can help too.

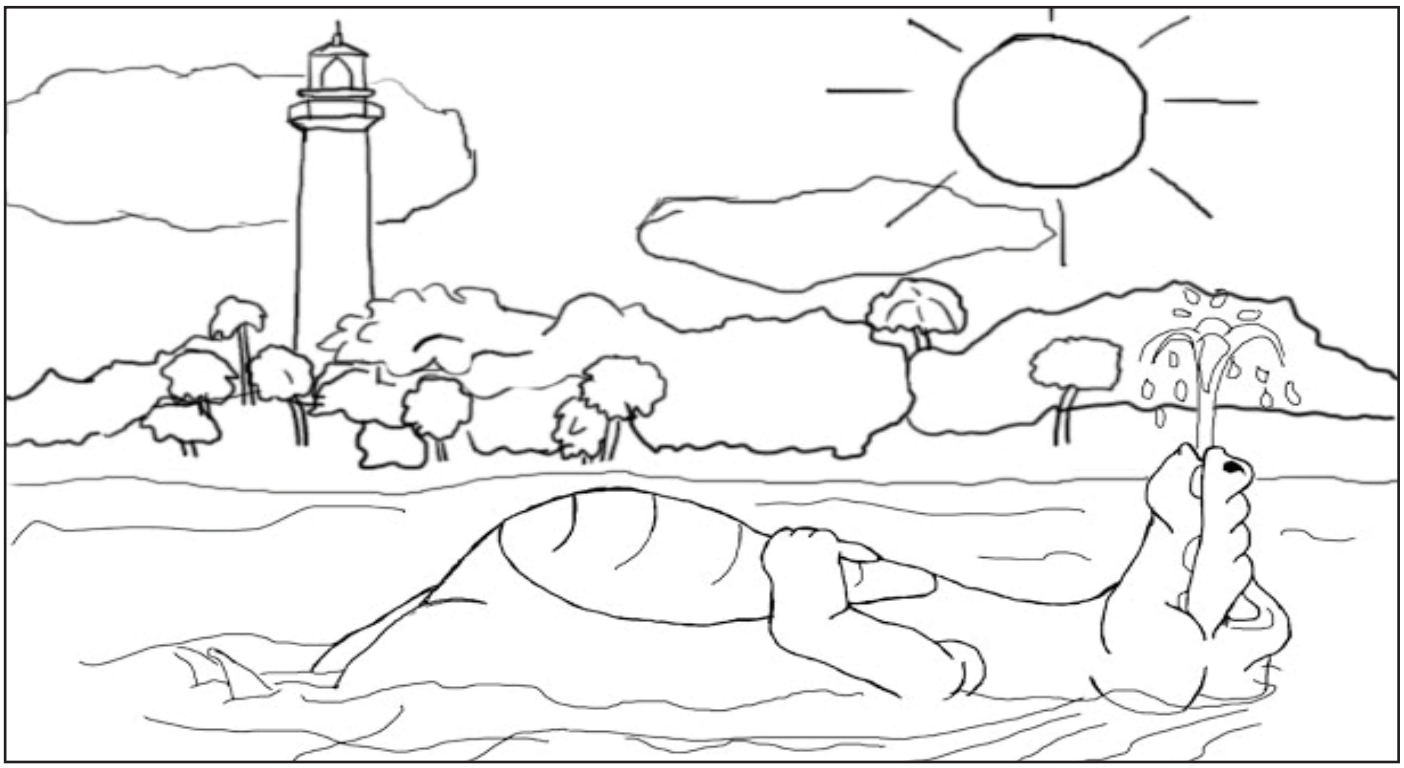
Ways to Prevent Pollution in Our Water

In order to help keep our water sources clean we have to be careful what we put on the ground and down the drain. Things like oil, pesticides, and cleaning products can seep into our water supply if dumped on the ground or in lakes and rivers. We can help prevent this pollution by making sure all chemicals are properly disposed of and by paying attention to the ingredients in the products we buy. Try looking for things that say that they are environmentally friendly.

Conservation

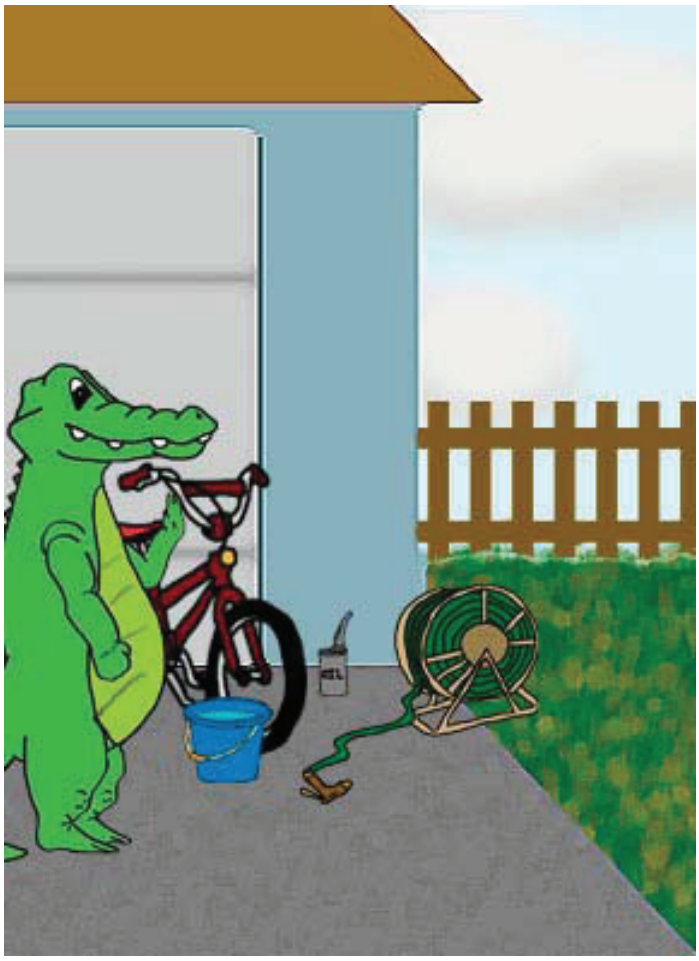
It may seem like the world is covered in water that we can use for drinking, but did you know that only about 1% of the water on earth is suitable for us to drink? Glaciers make up about 2% of the earth's water and the other 97% is salt water (which we can not drink). Because the amount of fresh water is so small, it is important for us to do what we can to conserve. Here are a few things that you can do:

- Make sure your faucets are turned completely off when you are done using them. If your faucet is leaking, let your parents know so it can be fixed. One leaky faucet can waste about 3 gallons of water in a single day.
- Turn off the water while you brush your teeth and wash your hands.
- Keep a pitcher of water in your refrigerator for drinking instead of running the tap until the water is cold.
- Check outside hoses, faucets and sprinklers for leaks.
- Check your toilet to see if it runs after it has been flushed. If it does, it has a leak that should be fixed.
- Only use water when you need it.



Can You Find the Differences?

The pictures may look alike but they are very different. Can you find the four things that are different?



Now that you have learned so much about water, I am proud to present you with a: Certificate of Water Knowledge.
Good Work!

CERTIFICATE OF WATER KNOWLEDGE

PRESENTED TO

_____

ON

_____

TOWN OF JUPITER

ANSWER KEY

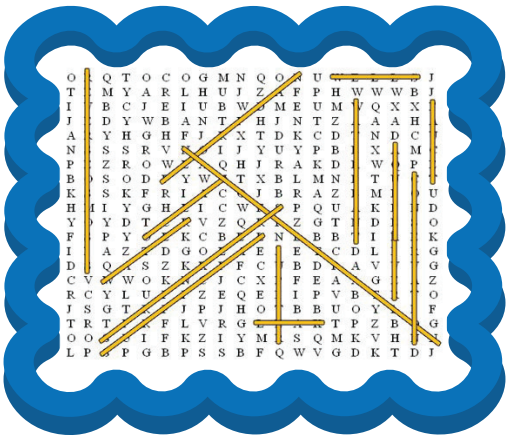
Can You Fill In The Blanks?

Rain, sleet, snow, and hail are all types of **precipitation**.
Evaporation turns liquid water into **gas**.
An underground river is known as an **aquifer**.
Water has three forms: **solid**, **liquid** and **gas**.
Water that does not soak into the ground is called **runoff**.

Let's Review

1) two; 2) Floridan; 3) surficial; 4) membranes; 5) tested

Water Word Search



UTILITIES

Town of Jupiter Utilities
210 Military Trail
Jupiter, FL 33458
561-741-2300

Town of Jupiter Water Plant
17403 Central Blvd
Jupiter, FL 33458
561-741-2601