



# **GoBi & Aguat get Savvy aBout Water Quality**

*Written by Malea Ortloff*

*Illustrated by Kayleigh Frederick*

*Produced by Eastern Municipal Water District and Rancho California Water District*



This book is dedicated to the memory of my dear friend Eugene "Gene" Knott whose love and commitment to the water industry, along with his gift for storytelling, inspired me to write *Gobi and Aguat get Savvy about Water Quality.*  
-Malea Ortloff

Gobi the water drop daydreamed as he floated in the warm Feather River in California. He was thinking about the time he fell from the clouds as a rain drop and landed on top of a house.

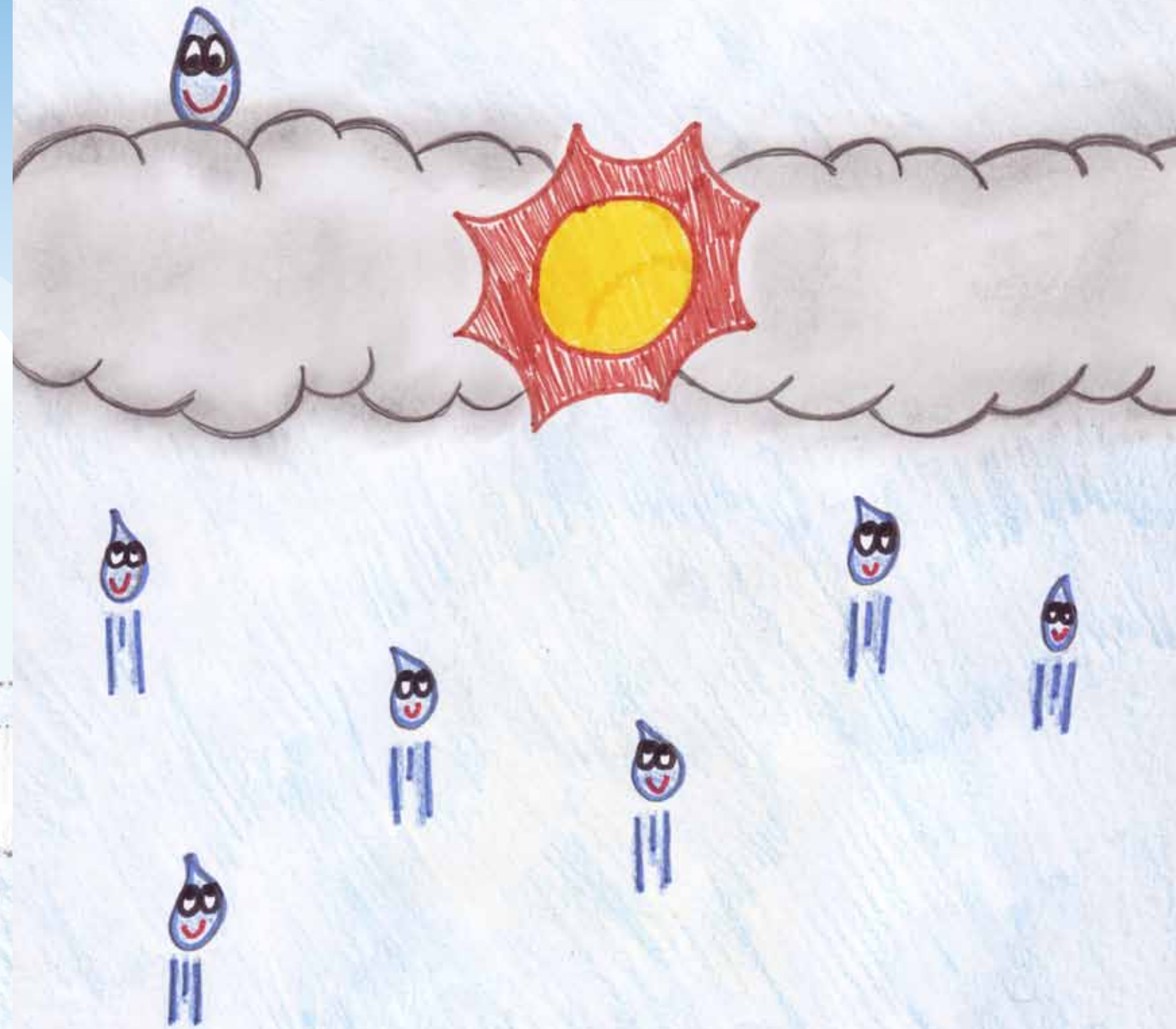
As he slid along the roof Gobi felt so cold he thought he might just freeze. Sure enough, as he tumbled over the edge of the rooftop he froze into an icicle.

Gobi hung on the edge of the rooftop until one sunny day, he felt himself begin to thaw into a water drop and fall to the ground below. He remembered feeling the tickle of the warm sun as he evaporated back to his home in the clouds.

Gobi loved the evaporation process of changing from a liquid to a gas because he knew it meant he would end up at his home in the clouds.



Gobi felt a splash beside him that pulled him from his daydream. He saw that a little water drop had landed in the river. He recognized her. She lived near his cloudbank back home. He noticed that something was different about her. Gobi started to laugh when he realized she was raw water. Seeing Gobi laugh, the little drop quickly swam away.



Gobi felt the heat of the sun and before he knew it, he was evaporating toward the clouds. Plop! Gobi landed on his cloud. He was happy to be back home and called out to his best friend, Aguat, who lived in the same cloudbank.

Soon the two friends were playing in the clouds, and Gobi was telling Aguat about the little water drop he had seen in the river. "She was a raw water drop!"

"What does that mean?" asked Aguat.

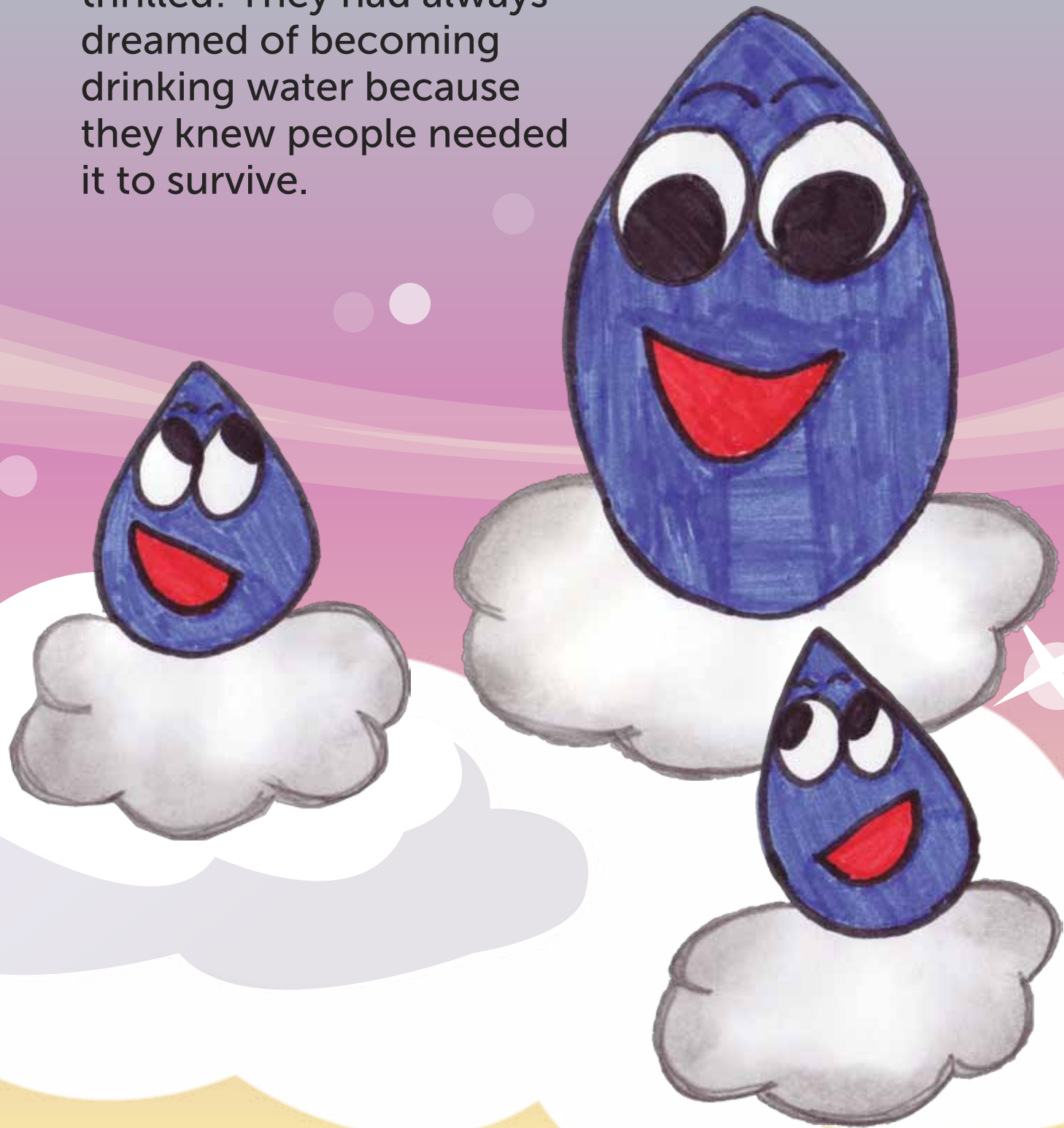
"It means she is not clean enough to be drinking water. When I saw her I just laughed," Gobi responded.

"Oh no," said Aguat, "do you think that made her feel bad?"

"I don't know," Gobi responded. "I didn't even think about that. I hope I didn't make her feel bad."



The two drops decided it was time to head back to their cloudbank. Gobi's mom met them and told them she had just found out they were going to become drinking water. Gobi and Aguat were thrilled! They had always dreamed of becoming drinking water because they knew people needed it to survive.

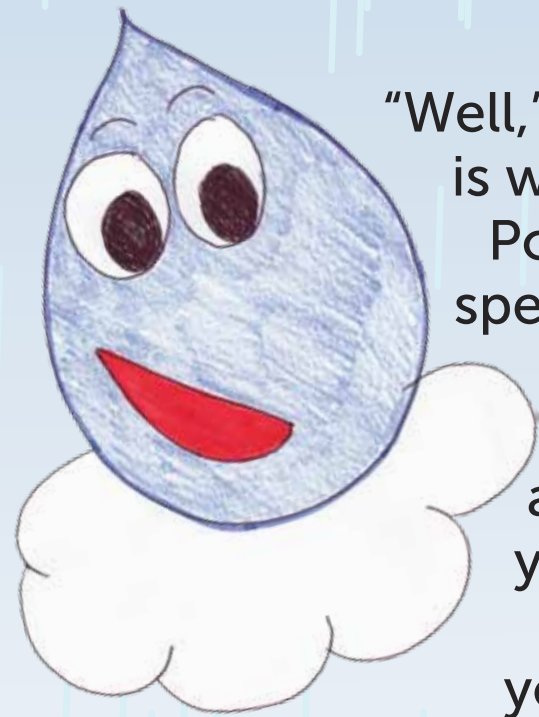


While the two friends high-fived one another, Gobi's mom gently told them that before they would become drinking water, they would have to get scrubbed and disinfected to be clean enough for people to drink.

Gobi turned to his mom with a frightened look in his eyes and asked, "Why?"

She explained that although they were precious drops of water, he and Aguat were not yet ready to be drinking water.

"What do you mean?" Gobi asked his mom.



"Well," she explained, "drinking water is what people call 'potable' water. Potable water must go through a special cleaning process to ensure the water is safe for people to drink. Although you and Aguat are perfect little drops of water, you are not yet clean enough to be potable water. By the time you fall through the atmosphere to Earth you will be raw water."

"RAW water?! Oh no!" Gobi cried. "You mean all of the other droplets will know that I am RAW water???"

"Well of course," Gobi's mother replied. "All water drops that fall to the Earth become raw water." She then went on to explain the basic cleaning process to the two drops. Gobi remembered the little raw water drop and how he had laughed at her. Now he felt so sorry he had been unkind.



Gobi's thoughts were interrupted when he heard a loud rumble and his mother said, "There's the thunder! It's time for you and Aguat to go!" Gobi gave his mom a quick kiss and then he and Aguat dashed through the clouds and began falling to the State Water Project canal below.

When the two drops landed in the water, they shrieked with delight as they, and all of the other drops, flowed through the canal and into Lake Perris. Gobi and Aguat swam wildly to stay out of the way of the boats and jet skis on the lake.

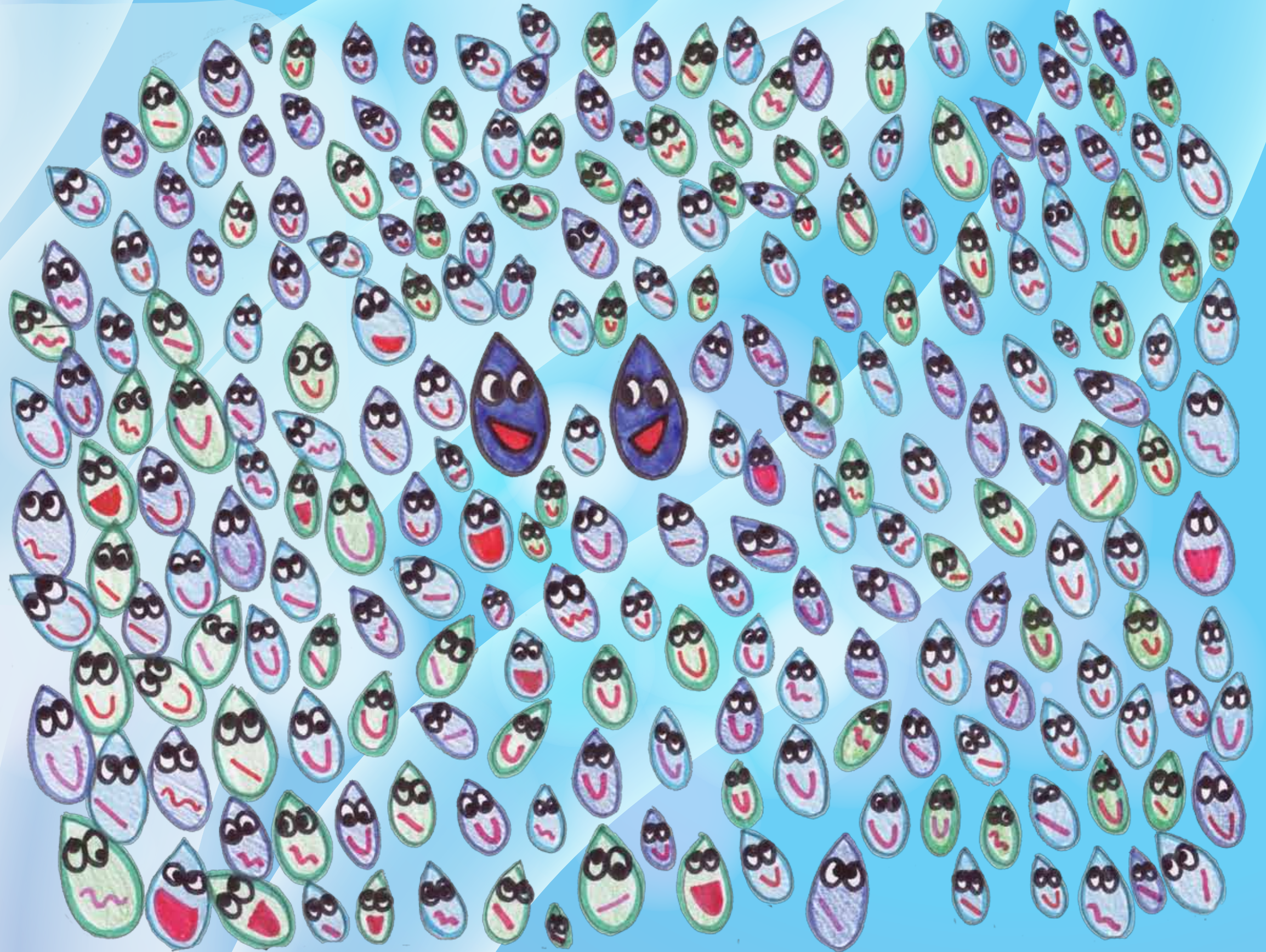
WHOOSH! Gobi and Aguat found themselves in a pipe filled with other drops that were all swimming fast.

"Wow it sure is dark in here," Aguat called out to Gobi.

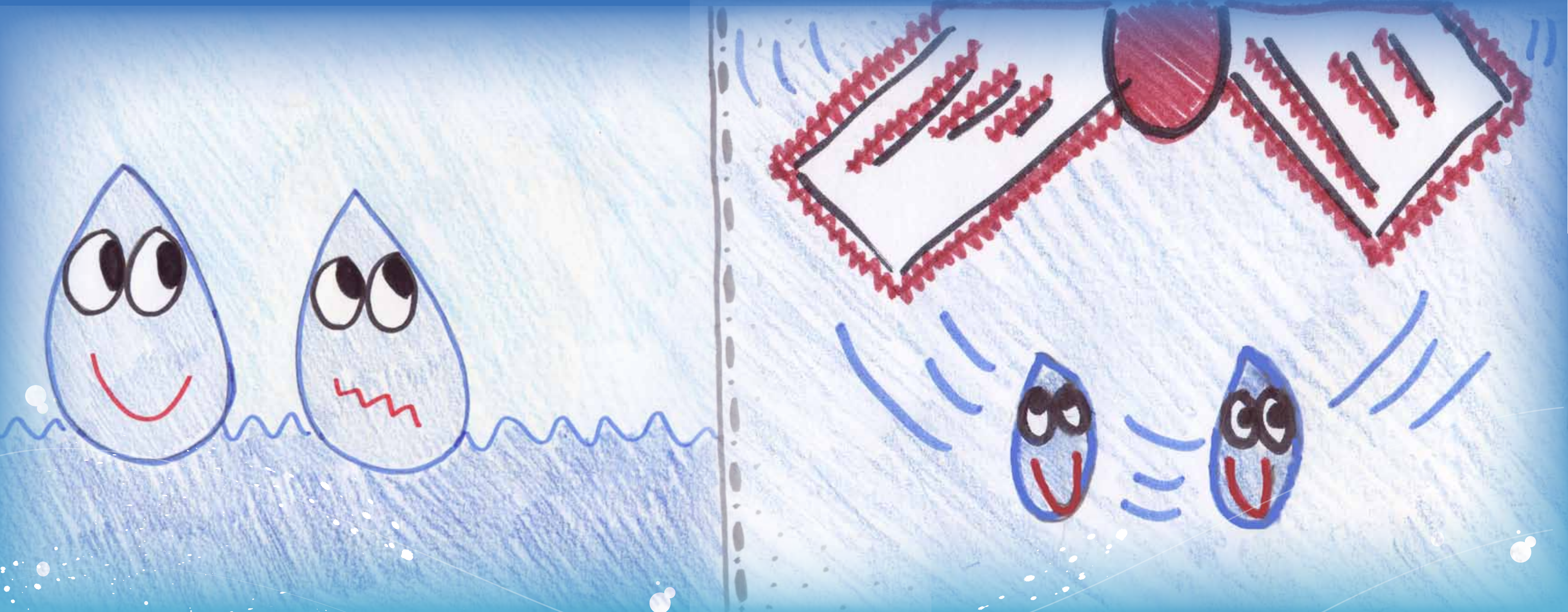
"Yes it is," Gobi replied, "but I think that's why it is so exciting!"

"Hold on!" Aguat called to his friend.

"I am!" shouted Gobi.







In the distance, the two drops could see light and noticed a large screen. Aguat asked Gobi where they were.

"My mom said this is the first place we go to become clean water," Gobi replied as he and Aguat continued their fast ride through the screen. "It is called pre-treatment and the screen prevents the large items, like leaves and twigs that are in with us drops, from getting through to the next phase of the process."

Soon the two friends felt themselves falling again. This time they landed in a large cement tank with many other drops. Huge paddles were moving all of the drops and they were laughing because they felt as though they were on a wild ride at an amusement park. They had fun spinning, swooshing, moving, and churning.

Gobi noticed a man standing next to the tank, talking with a group of children about the process. "This is what we call the floc basin," Mr. Waters explained to the students. "It's where we add a chemical called aluminum chloride to the water. The aluminum chloride causes all of the large dirt particles in the water to stick together and then sink to the bottom of the tank. Those particles are sent to the sewer for treatment, while the water continues on to the next area for cleaning."



Suddenly the drops were being pulled toward a large filter that looked like a bunch of long spaghetti noodles. Another man, Mr. Lewis, was talking with a group of people saying, "These long strands are known as membrane filters. Each strand has millions of tiny little holes that are so small (hundreds of times smaller than a human hair), the bacteria in the water are unable to pass through. The only thing that can get through this filter is clean water."



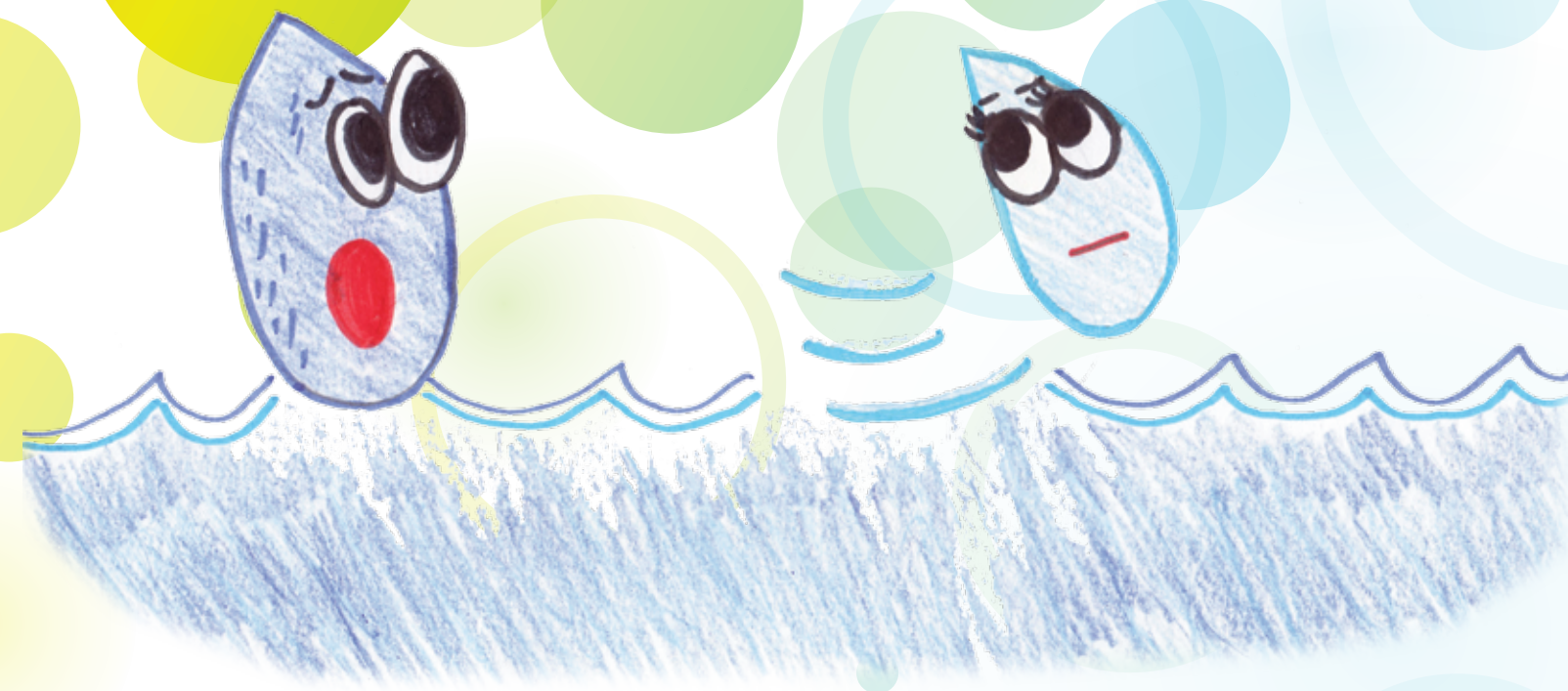


Mr. Waters and Mr. Lewis spent their day monitoring all of the water droplets that came in to be cleaned and disinfected. They were able to keep track of the drops by watching information on computer screens and by sending some of the drops out for testing.

Gobi and Aguat were pulled through the filter into an area that looked like a water park. Little water drops were flowing through a mini canal that snaked through the area known as the Chlorine Contact Basin. In this area the slow moving drops were sprinkled with a small amount of chlorine, which made them feel fresh.

Gobi remembered his mom told them the chlorine was used to disinfect the water to make sure all of the bacteria were completely gone. She said it would prepare them to become drinking water. She also said if there were one million teaspoons of water, only three teaspoons of chlorine would be added. She told them it was enough chlorine to get the little drops all the way from the filtration building, through the pipes, and to the water faucets.

Gobi looked around and saw the little water drop he had seen in the river. He wanted to talk with her and tell her he was sorry for laughing, but she flowed right by him and then she was gone.



Gobi and Aguat felt the pull once again and soon they were in a water pipe. This pipe seemed different from the first one they had been in because it looked cleaner. The two friends flowed through the pipe into a gigantic tank, where they would be stored until they were needed. It was nice to take a rest in the tank for the night.

The next day Gobi and Aguat felt another WHOOSH, and they were off again, flowing through the clean pipes. As they swam, Gobi looked around and he saw her. The little water droplet he had laughed at. At first he almost didn't recognize her. She looked so clean. She smiled when she saw Gobi.

"Hey!" Gobi called to her. "My name is Gobi, and this is my friend Aguat. What's your name?"

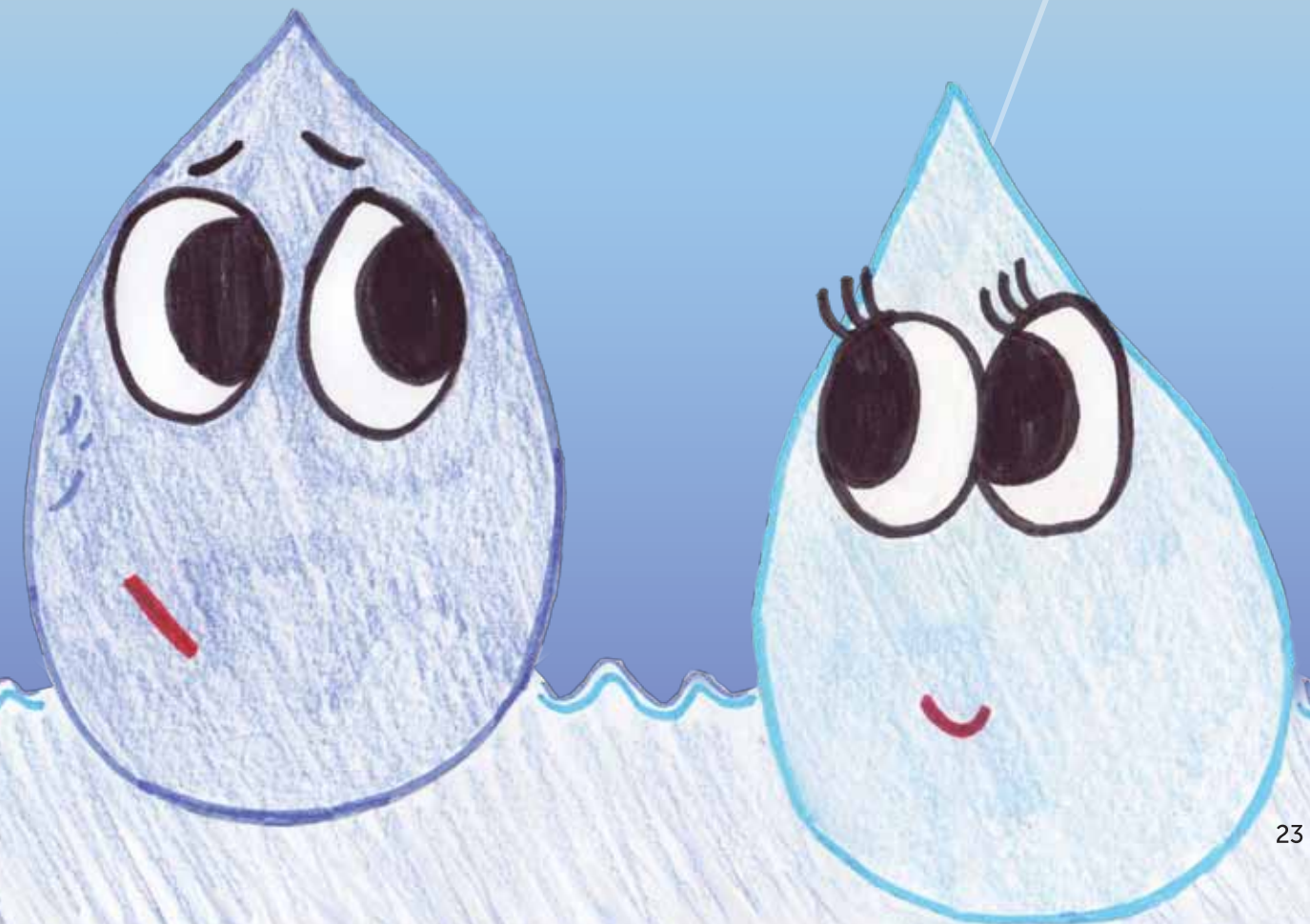
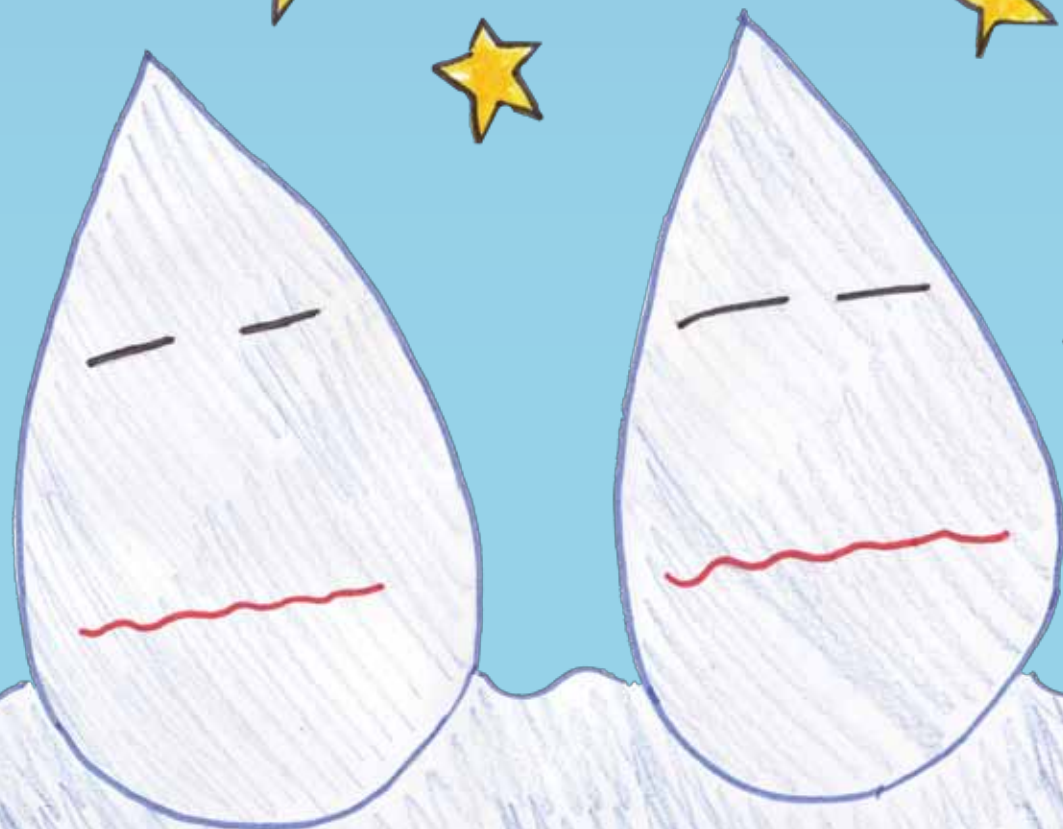
The little water droplet smiled and said, "My name is Savannah, but my friends call me Savvy."

"Wow! You sure look great! I am so sorry I laughed at you when I first saw you. I was on my way to becoming a raw water drop myself, and here I was laughing at you!"

"It's ok," she replied. "I knew you would find out soon enough and then we would become great friends!"

"I saw you at the water park and then you were gone. Where did you go?" Gobi asked.

"I had to be tested to make sure all of us water droplets are safe to drink," she replied.





Savvy told them she had been sucked up into a container, put into a crate, and felt herself sloshing this way and that. She looked up and saw a sign that read "Laboratory" and felt herself being carried through the door.

Savvy saw a hand reaching for the container. The next thing she knew, she was in a test tube spinning around fast while people wearing large goggles put special drops into the tube with her. She heard Mr. Marshall telling one of the people that Eastern Municipal Water District (EMWD) does many tests on the water to ensure it is safe for people to drink. He went on to say EMWD water has to meet strict rules set by the Environmental Protection Agency, which ensures the water is safe to drink. Savvy was proud to know she would be high quality drinking water.

Gobi and Aguat learned Savvy had passed all of the tests, which meant they were all ready to be used by people.

The three friends sped through the pipe, not exactly certain of where their adventure would take them.

Eugene laced up his running shoes and headed to the water fountain to fill his water bottle before the race. A couple of years before, people called him the "Water Waster" because he was wasteful with water. He realized it takes a lot of work to clean and disinfect water before it reaches our faucets. He also learned that because he lived in a dry area, the water was imported from far away, through canals and a filtering process before it reached his home.

He was amazed that with everything that goes into making sure tap water is clean and safe to drink, it still only costs less than one penny per gallon. Once he learned the importance of water, he made a promise to never be a "Water Waster" again. He kept his promise by filling recyclable bottles with water.

Eugene knew a full bottle of water would quench his thirst after the race. He put his water bottle under the faucet and turned the handle. Gobi, Aguat, and Savvy fell into the bottle and gave a loud cheer. They did it! Finally! They were now high quality drinking water.

Eugene peered into the bottle and saw it was full of clean water. He smiled and winked because he thought he saw a couple of water drops that looked awfully familiar.



Through their adventure Gobi, Aguat, and Savvy learned many interesting details about water filtration. The most important thing they learned was that raw water is not intended to be used for drinking water. First it must be cleaned and go through a filtration and disinfection process before it can become tap water.



It was crystal clear to the three drops: EMWD provides high quality, safe drinking water to their customers.

Gobi, Aguat, and Savvy knew that soon they would be home again in the clouds, waiting for another adventure. But that's another story!

## Fast Facts:

- EMWD does not supply "raw" water to customers.
- EMWD filters and disinfects water to make it safe to drink.
- EMWD conducts many tests per month on drinking water to ensure it is safe to drink.
- EMWD water costs less than one penny per gallon.
- EMWD water is environmentally smart to drink.

## Acknowledgements

Eastern Municipal Water District Education Specialist Malea Ortloff created the award-winning Write-Off program to encourage the wise use of water through literature. The first Write-Off contest produced the water use efficiency story *Gobi's Adventure*, written by then sixth grade student Lucas Pfeiffer. In the new story, *Gobi and Aguat get Savvy about Water Quality*, the focus is on water quality and the original characters are joined by newcomer Savannah (Savvy) Water Drop. Lucas collaborated with Malea to develop the activity sheets for the curriculum packet that accompanies the story.

Eastern Municipal Water District wishes to thank the following students, advisors, and graphic designer for their collaboration and contributions in the development of this book.

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## Vocabulary Words

**Aluminum Chloride**—Chemical used in drinking water treatment facilities to help remove particles and bacteria from the water.

**Cement**—A powdery substance made by combining lime and clay, mixed with water to form mortar or mixed with sand, gravel, and water to make concrete.

**Chlorine**—A gas that is added to water supplies to kill bacteria.

**Disinfect**—Treatment to destroy harmful microorganisms.

**Environmental Protection Agency (EPA)**—A governmental agency responsible for the enforcement of environmental protection laws.

**Facility**—Permanent industrial property such as a building, plant, or structure built for a specific function.

**Filtration**—The process of passing through a filter.

**Imported**—Something that originated in one region and is transferred to another region.

**Laboratory**—A workplace for the conduct of testing and scientific research.

**Membrane filtration**—A soft pliable filter that is used to separate particles from a liquid to purify it.

**Microfiltration**—A filtration process which removes contaminants from water through membranes.

**Monitoring**—To observe and check the progress or quality of (something) over a period of time.

**Potable**—Suitable for drinking.

**Raw Water**—Water that has not been purified.

**State Water Project**—The nation's largest state-built water and power development and conveyance system.

**Survive**—Continue to live or exist.



## Biography

**Kayleigh Frederick**—Hi, my name is Kayleigh Frederick and I'm a freshman at Chaparral High School in Temecula, CA. In my free time I love to draw, play soccer, listen to music and hang out with my friends. I would like to thank my family for always supporting me with everything I do and the Eastern Municipal Water District for giving me this wonderful opportunity to illustrate yet another Gobi book! Enjoy :)

**Lucas Pfeiffer**—Hi, my name is Luke Pfeiffer, and I'm the creator of Gobi. When I first wrote *Gobi's Adventure* I was an incoming sixth grader at Margarita Middle School. I am now a freshman at Chaparral High School. While a lot has changed since then my love of writing creatively is still going strong (that, and my love of hockey, of course).

**Malea Ortloff**—Hello! My name is Malea Ortloff and I am the Education Specialist for Eastern Municipal Water District. I have the honor of providing the water education program for students in 11 school districts and private schools in our service area. From water use efficiency to water quality, it is essential that our youth learn and understand these concepts as they are our future community leaders. I am blessed with a wonderfully supportive family that includes my husband Don, daughters Lisa and Lori, son-in-law Jeremiah, and granddaughter Savannah.

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