

Keeping everyone **SAFE**

Safety is our number one priority. We want our community to be safe and to have safe and reliable drinking water. We also want workers to be safe all the time.

We think about safety in everything we do. We wear safety gear, like hard hats and safety vests, and safely use tools. We also use signs and cones to help keep people safe at job sites—like what you might see on the street sometimes.

What safety equipment can you find on every page?
Point to each one you find.



WOULD YOU LIKE TO WORK WITH US?

Are you responsible? Do you enjoy solving problems with others? You might want to be a **SAFETY COORDINATOR!** Safety coordinators help coworkers think through problems and solutions for situations where something might be dangerous.

FOR THE GROWNUPS

We're so pleased your child wants to learn about Tacoma Water, and we hope you've enjoyed learning alongside them! If you have questions, please visit MyTPU.org/Water, or call Tacoma Water at **253-502-8384**.

You can find the answer key online! Just visit us at MyTPU.org/WaterAnswers.



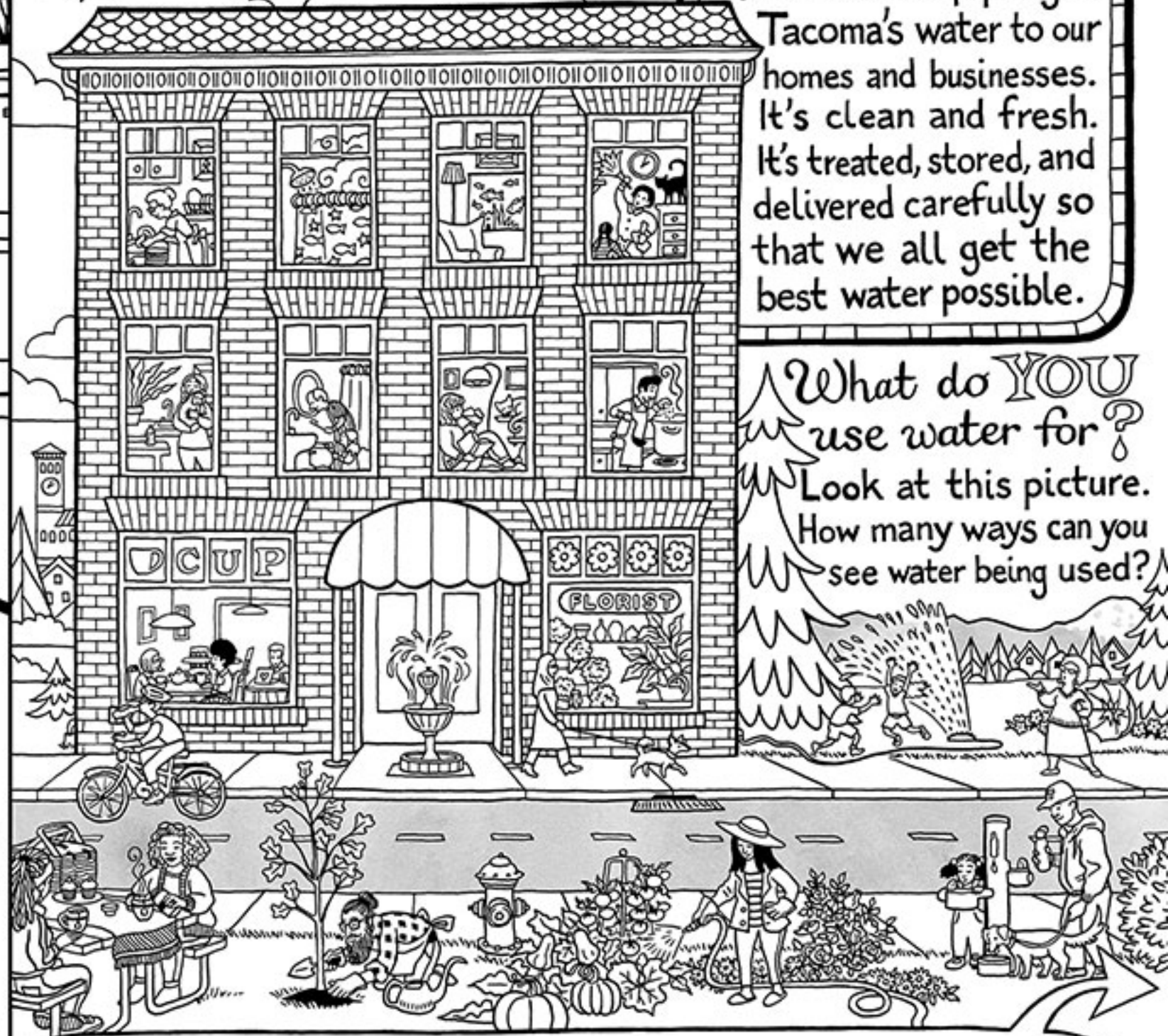
Illustrations by Chandler O'Leary.

Say HELLO

to Tacoma's WATER!

We all use water every day. Hundreds of people and miles of pipe get Tacoma's water to our homes and businesses. It's clean and fresh. It's treated, stored, and delivered carefully so that we all get the best water possible.

What do YOU use water for? Look at this picture. How many ways can you see water being used?



Turn the page to see how **TACOMA'S WATER** gets to you.



Exploring our WATERSHED

Most of our water comes from the upper Green River watershed. A watershed is an area of land that drains to a single place. Our watershed is tucked into the Cascade Mountains and is home to hundreds of types of plants and animals.

Every winter, snow falls on the mountains. With each snowfall, the snow gets deeper. When the weather warms in spring, the snow melts. It also rains often in the springtime. All this water flows down mountainsides into small streams or through the soil, and eventually into the Green River.



ACTIVITY: Find it!

Can you find these things in the forest scene?

- | | | |
|------------|------------------|---------------------|
| deer | ocean spray | pileated woodpecker |
| hard hat | pickup truck | salamander |
| snake | raccoon | computer tablet |
| bald eagle | Oregon grape | great blue heron |
| otter | backhoe | Pacific tree frog |
| shovel | sword fern | chainsaw |
| elk | coyote | snowberry |
| vine maple | Douglas fir cone | binoculars |
| kayak | black bear | red-tailed hawk |
| salmon | American dipper | weather station |

TACOMA WATER Would you like to work with us?

Are you independent? Do you like to hike in the woods? You might like to be a **FORESTER!** Foresters take care of the trees so that the forest and river are healthy.

Are you adventurous? Do you like to talk to people? You might want to be a **WATERSHED INSPECTOR!** Inspectors go into the mountains and teach the people they meet about the land to make sure our watershed stays safe.

Land Acknowledgement

We would like to acknowledge the Federally Recognized Muckleshoot Indian Tribe, the ancestral keepers of the land that today supplies Tacoma's drinking water. We thank them for their partnership in continuing to care for the land, as well as their immense contributions to our community, state and local history, culture, economy, and identity as Washingtonians.





Taking WATER from the RIVER




The upper Green River flows into Eagle Gorge Reservoir. Howard A. Hanson Dam is the big dam that holds this reservoir. Water is released slowly from the reservoir during warm months of the year. A few miles downstream, we have a smaller dam called the diversion dam.



Behind this diversion dam is the underwater intake. River water flows into the intake and downhill toward our filtration facility. We only take as much water as we need for humans and make sure we leave enough water in the river for fish—especially salmon—and all the species nearby.


ACTIVITY: Word Jumble



Unscramble the words below. All these words are on this page. Then, put the drops in order to discover Tacoma Water's focus.

CRESURE GINREEN →  1 _____  3 _____

IDLWFILE OOBIGISTL →  6 _____  2 _____  8 _____

VIDERSION MAD → _____  9 _____  4 _____

MASLON → _____  7 _____

NREGE VIRER → _____  5 _____  10 _____

Our Focus

1 2 3 4 5 6 7 8 9 10



ORGANISM	How they use water:
My dog Spike	cooling off, playing
Raccoons	washing food
Mom!	watering our garden
Potted cactus	water to grow

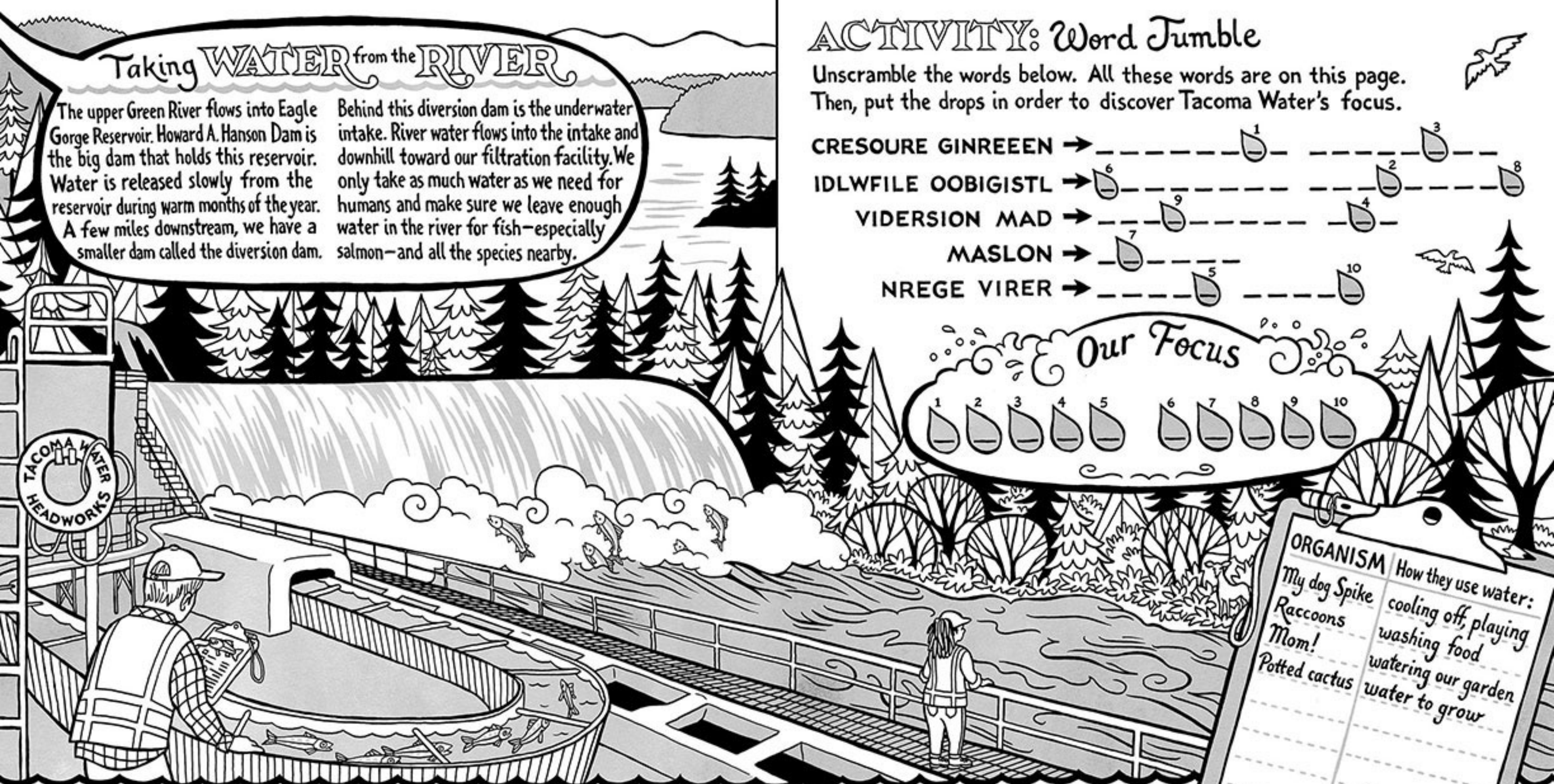
Would you like to work with us?

Are you imaginative? Do you enjoy planning for the future? You might want to be a **WATER RESOURCE ENGINEER!** These engineers figure out how much water is available to ensure there's always enough for humans and everything around us to share.

Are you adaptable? Do you like to help animals? You might want to be a **WILDLIFE BIOLOGIST!** Wildlife biologists figure out the best ways to help all the species who live around us.

TRY AT HOME:

You know that humans use water every day, and every other organism does, too! Go outside and list the organisms you see and how they're using water today.



Making water *Safe* to DRINK

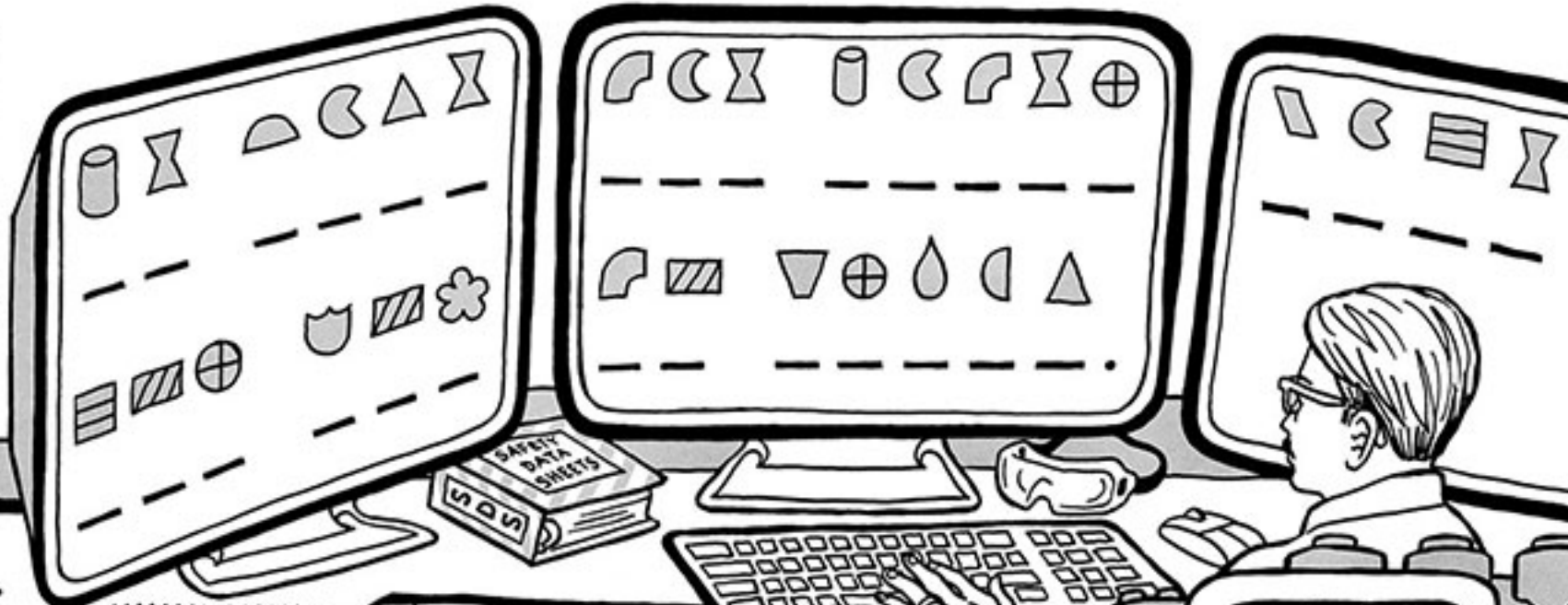
Though our river water is already clean, we must make it even cleaner to be safe to drink. We clean and treat our water at the **GREEN RIVER FILTRATION FACILITY (GRFF)**. The GRFF is a giant water-treating machine! First, we make big dirt particles fall out of the water. Then, we catch the teeny-tiny dirt particles in a filter. Lastly, we add a few chemicals to keep the water safe.

KEY:

◊	▲	▼	⊘	≡	∞	☾	☼	
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

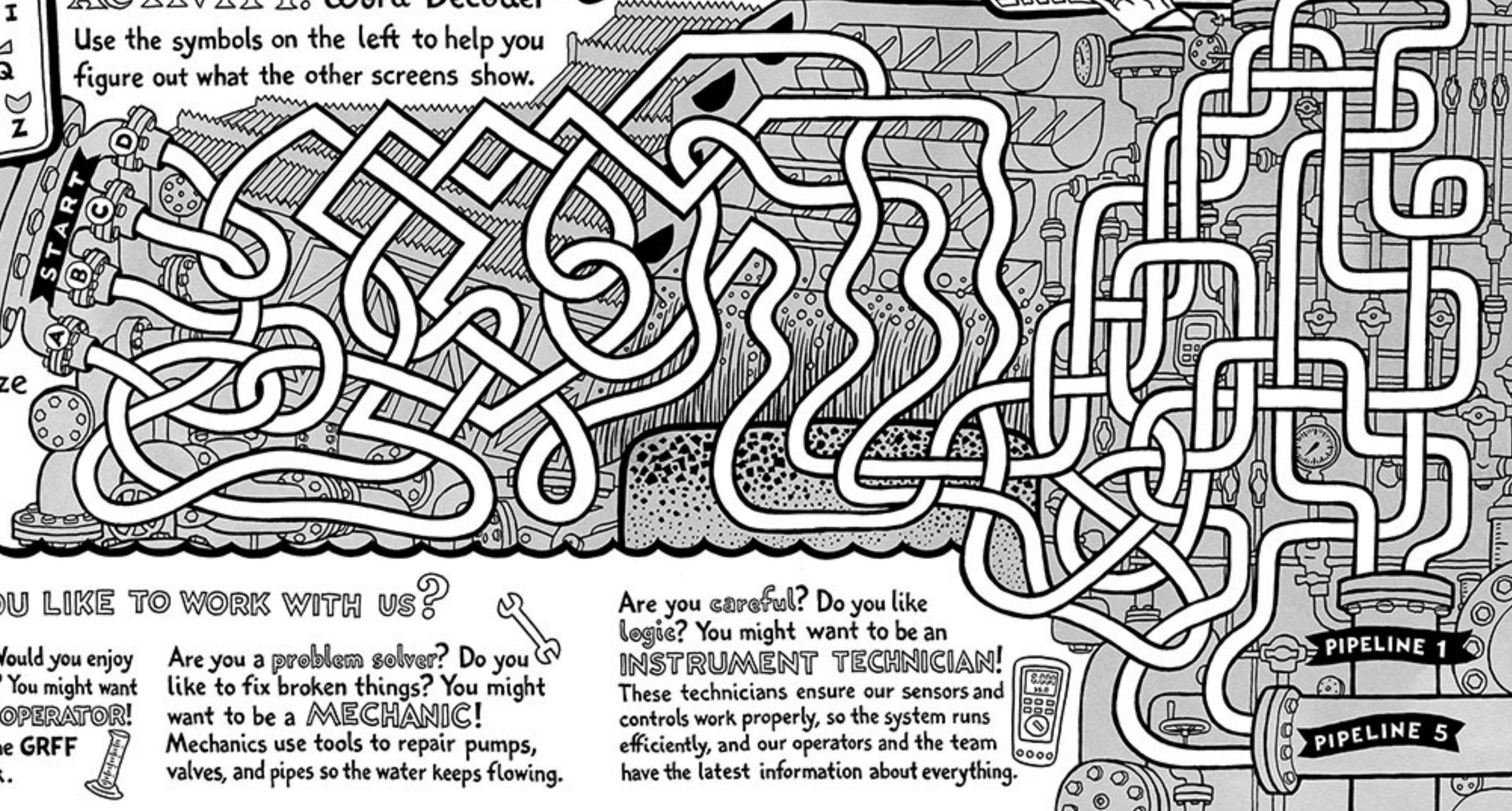
ACTIVITY: Word Decoder

Use the symbols on the left to help you figure out what the other screens show.



ACTIVITY: Maze

Which pipes go to which pipeline?



WOULD YOU LIKE TO WORK WITH US?

Are you cool under pressure? Would you enjoy running a complicated machine? You might want to be a **TREATMENT PLANT OPERATOR!** Operators run the systems of the GRFF to make our water safe to drink.

Are you a problem solver? Do you like to fix broken things? You might want to be a **MECHANIC!** Mechanics use tools to repair pumps, valves, and pipes so the water keeps flowing.

Are you careful? Do you like logic? You might want to be an **INSTRUMENT TECHNICIAN!** These technicians ensure our sensors and controls work properly, so the system runs efficiently, and our operators and the team have the latest information about everything.

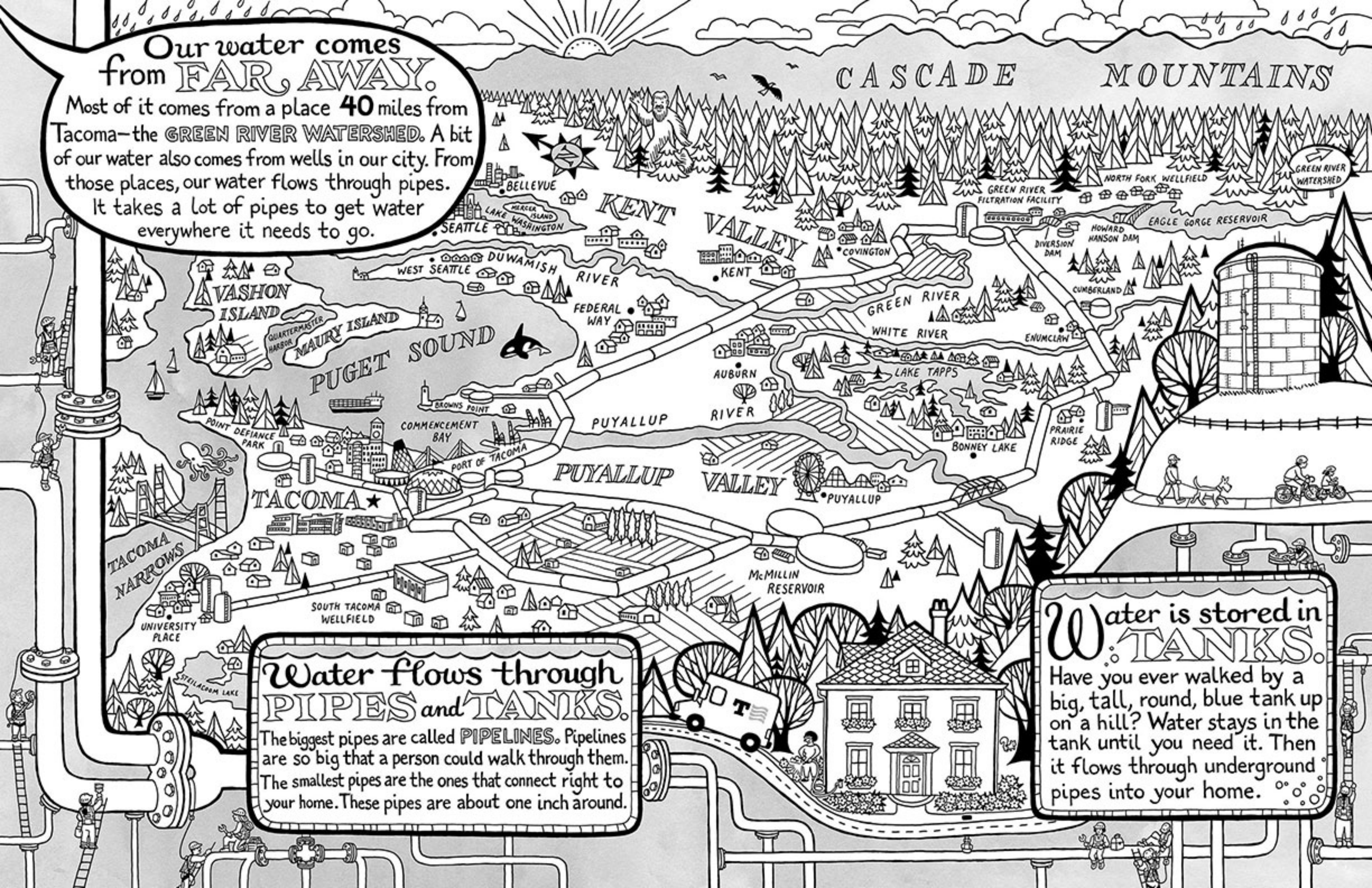


CASCADE MOUNTAINS

Our water comes from **FAR AWAY**. Most of it comes from a place **40** miles from Tacoma—the **GREEN RIVER WATERSHED**. A bit of our water also comes from wells in our city. From those places, our water flows through pipes. It takes a lot of pipes to get water everywhere it needs to go.

Water flows through **PIPES and TANKS**. The biggest pipes are called **PIPELINES**. Pipelines are so big that a person could walk through them. The smallest pipes are the ones that connect right to your home. These pipes are about one inch around.

Water is stored in TANKS. Have you ever walked by a big, tall, round, blue tank up on a hill? Water stays in the tank until you need it. Then it flows through underground pipes into your home.



MOVING and STORING water

Tanks, pipes, valves, pumps, and wells are essential parts of our water system! They are in many different places, as you can see on the map. They allow us to deliver the right amount of water to everyone when they need it.

TANK

stores water until we need it.

PUMP

moves water uphill.

WELL

supplies water from underground.

VALVE

controls the flow of water.

PIPE

holds water flowing from one place to another.

TRY AT HOME:

Can you move water up with a pump? You have pumps in your house!

Materials:



Two cups, one full of water, one empty



The pump and tube part of a spray bottle or soap dispenser



Set up the materials like this

Can you move all the water from one cup to the other?

ACTIVITY: Word Search

Can you find all the water system words?

RMRF INFORMATIONFGRB
 YFELFALUFSVSYKJGSTY
 WXZNMHRQGIMAPYCV EOS
 IESOUTHVXKUBCRSPNOB
 RTKIFIEASTSDCEYTSRF
 ISDIBWPFZYNSFLSEOGG
 NYCONTROLSSYAETCREE
 GTCILOCATIONNYCEHSAO
 XOAGSLWSKULHNTMNFNG
 VNYOUIWMETERRBOAAR
 COMPUTERZTIOWIXLBLA
 IDGOWAVTHFIYVCI OBY P
 EMEASUREKWESTIYGYZH
 IGUPZBBLGPNNCTBYNEY
 COMMUNICATIONYLLTNJ
 QRPROGRAMMINGOXNQAW
 TNORTHDYATOJFAVNCPC
 KHAUIPVKLSIGNALXMPX

wiring·technology·signal·east·analyze·
 sensors·communication·measure·south·
 computer·map·programming·geography·
 north·meter·location·electricity·app·
 information·west·controls·system



WOULD YOU LIKE TO WORK WITH US?

Are you creative? Do you enjoy doing puzzles? You might want to be a **CONTROLS ENGINEER!** These engineers make technology and the world fit together to monitor and control how our water moves.

Are you organized? Do you like maps? You might want to be a Geographic Information System (GIS) **ANALYST!** They make maps and build apps to help people see where they work and things nearby.

Are you bold? Do you enjoy making things happen like magic? You might want to be an **ELECTRICIAN!** Electricians ensure that power systems are safely installed to run all our equipment. You can't have water without electricity!



TRY AT HOME:

The next time you're outside, look for parts of the Tacoma Water system. You might see a blue tank or a gray building with the words "Tacoma Water" on it. What parts of the Tacoma Water system are close to you?



FIRE HYDRANT

WATER SAMPLE STATION

WATER MAIN

FIRE HYDRANTS connect to water mains. Fire hydrants help keep our community safe! Where is your closest fire hydrant?

WATER SAMPLE STATIONS also connect to water mains. We visit many sample stations every week to test the water to ensure it's safe to drink.

Delivering water to **Every** part of our **COMMUNITY**
 Our most common kind of pipe is called a **WATER MAIN**. Water mains are mostly 6 to 8 inches across, about the size of a pancake. There is one water main under almost every street where we deliver water.

ACTIVITY: Word Jumble

Unscramble the words below. All these words are on this page. Then, put the drops in order to find out what Tacoma Water's top priority is.

- LAMPES → 1
- ATWER AIMN → 2
- REIF DRYTAHN → 3
- SETT → 4
- TOCUMMINY → 5
- TILITUY ORWERK → 6

Top Priority: 1 2 3 4 5 6

T WOULD YOU LIKE TO WORK WITH US?

Are you curious? Do you enjoy building things? You might want to be a **UTILITY WORKER!** Utility workers install system parts and fix anything that goes wrong. At the same time they learn about more advanced jobs.

Are you thorough? Do you enjoy science experiments? You might want to be a **WATER QUALITY SPECIALIST!** Water quality specialists are experts in clean water. They constantly check to ensure water is safe to drink.

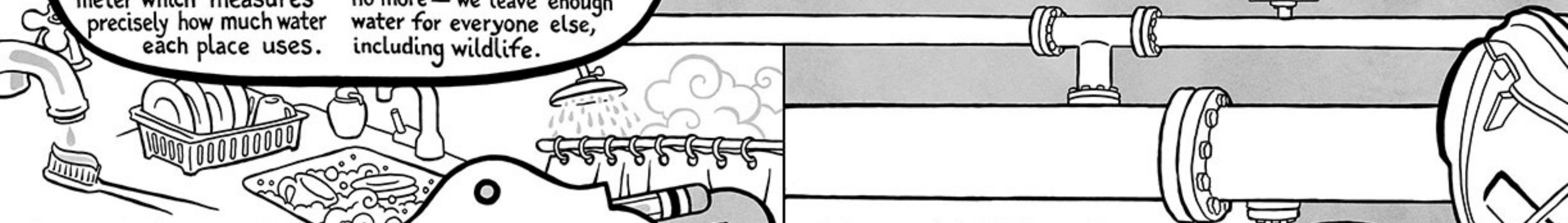
Are you observant? Would you enjoy operating a backhoe? You might want to be a **HEAVY EQUIPMENT OPERATOR (HEO)!** HEOs move dirt which helps the rest of the team reach the pipes and valves they need to fix. HEOs also have a good view of the project and watch how it's going.



Getting water TO YOU

Water flows from the water main towards each building through a small pipe. Then the water goes through a water meter which measures precisely how much water each place uses.

It's essential that everyone uses water wisely and does not waste it. When everyone uses only as much as they need—and no more—we leave enough water for everyone else, including wildlife.



TRY AT HOME:

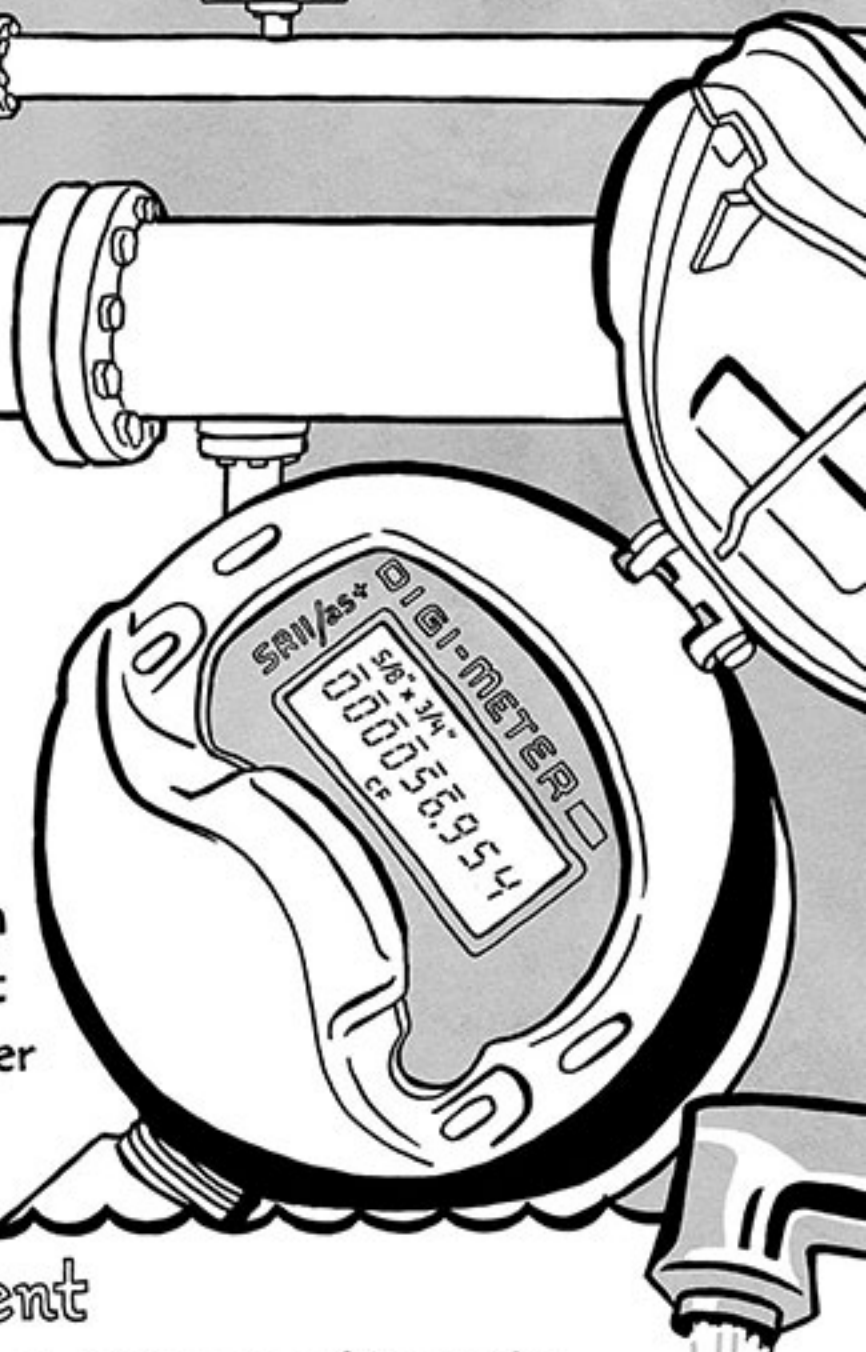
Here are some water-saving tips. Check the box after you do each one.

- Turn off the tap when brushing teeth.
- Turn off the tap when washing dishes.
- Scrape dirty dishes into the food/yard waste bin.
- Shower in five minutes or less.
- Check your faucet for drips. Make repairs!
- When you water outdoors, don't water the sidewalk.



TRY AT HOME:

Ask an adult to help you find your water meter. The adult can lift the lid of the meter box, and then you can find the dial or digital screen under the lid. Turn on a faucet and then watch the water meter measuring your water use!



WOULD YOU LIKE TO WORK WITH US?

Are you a helper? Do you enjoy teaching others new things? You might want to be a **WATER SERVICE WORKER!** Service workers do all they can to ensure water flows to every home and business, no matter what.

Are you detail-oriented? Do you like to draw? You might want to be an **ENGINEERING TECHNICIAN!** Engineering technicians draw the plans for everything built to deliver water.

Land Acknowledgement

We gratefully honor and acknowledge that Tacoma and its nearby communities rest on the traditional lands of the Puyallup people. The Puyallup people have lived on and stewarded these lands since the beginning of time. They are still here today. They live, work, raise their children, take care of their community, practice their traditional ways and speak the Twulshootseed language—just as their ancestors did.