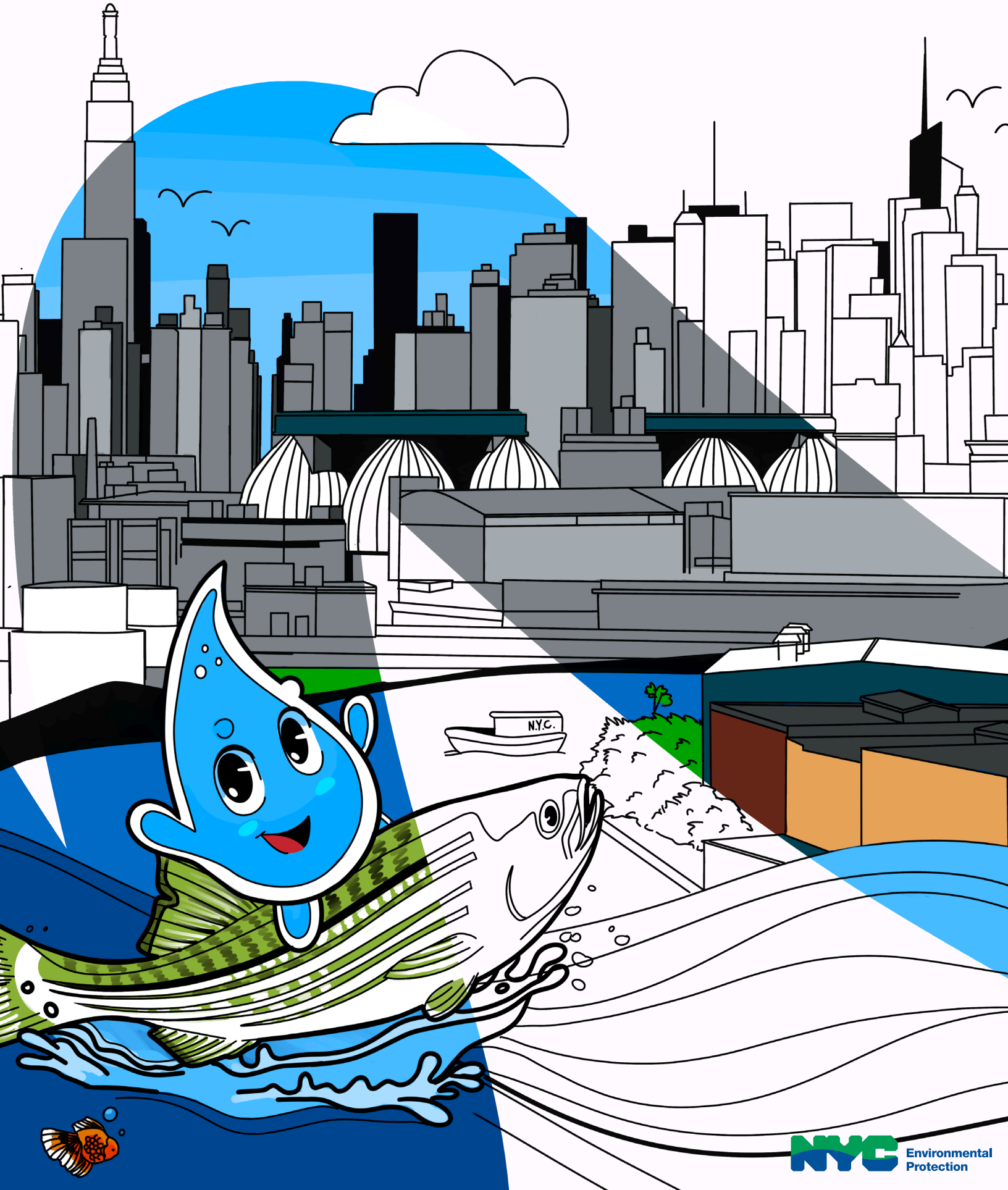


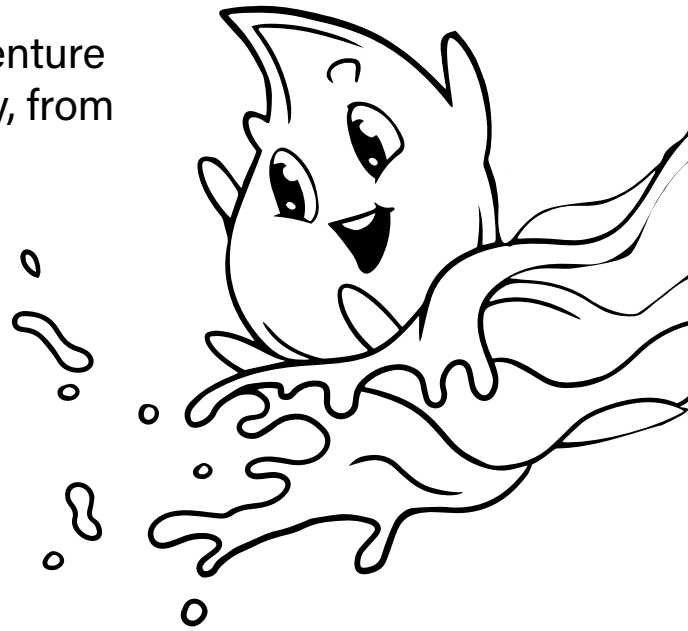
# Drippy's Water Adventure



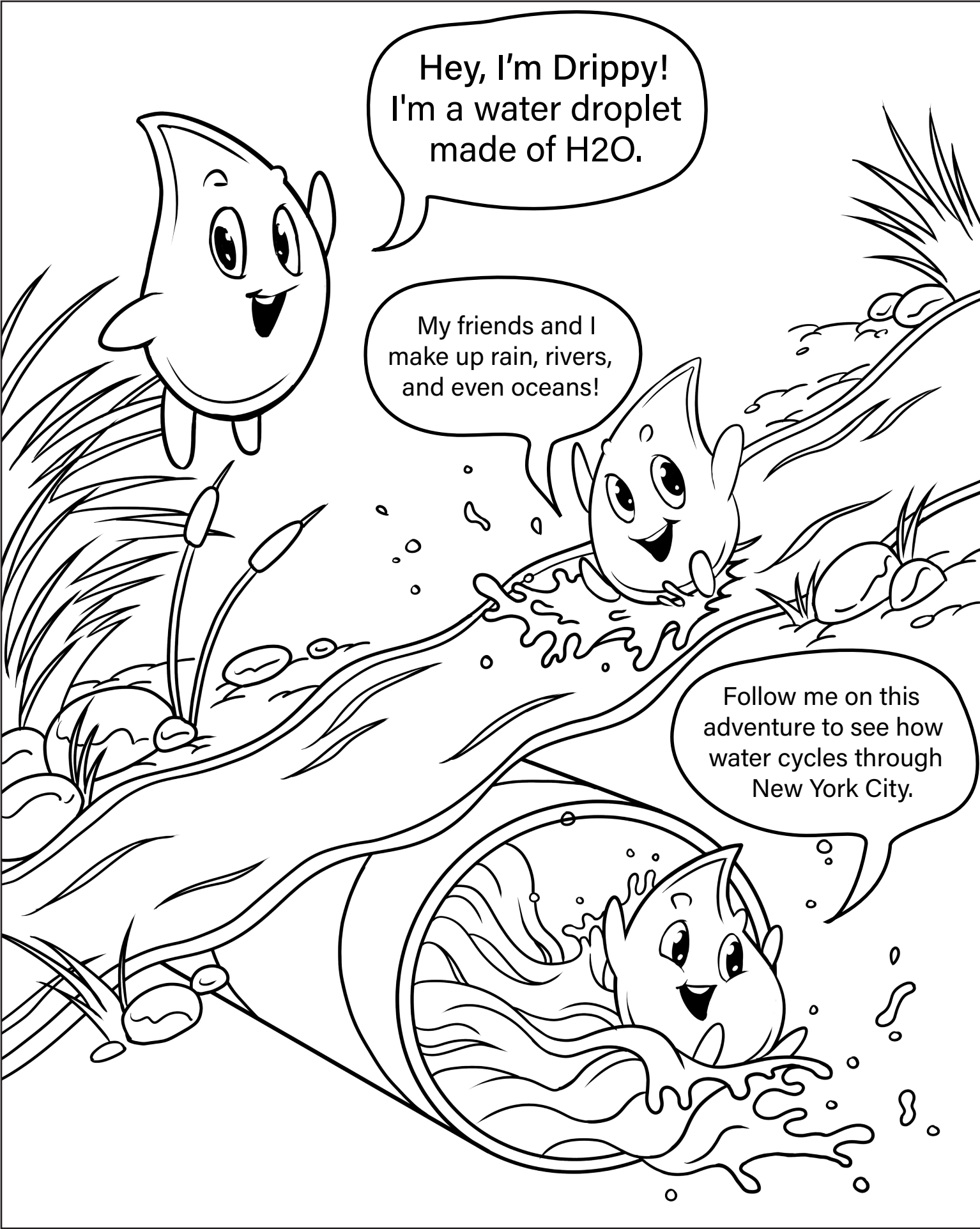
# Drippy's Water Adventure

A Coloring Book of New York City's Water Story

Join Drippy and friends for a fun adventure exploring New York City's water story, from mountain top to sea.




This coloring book belongs to: \_\_\_\_\_



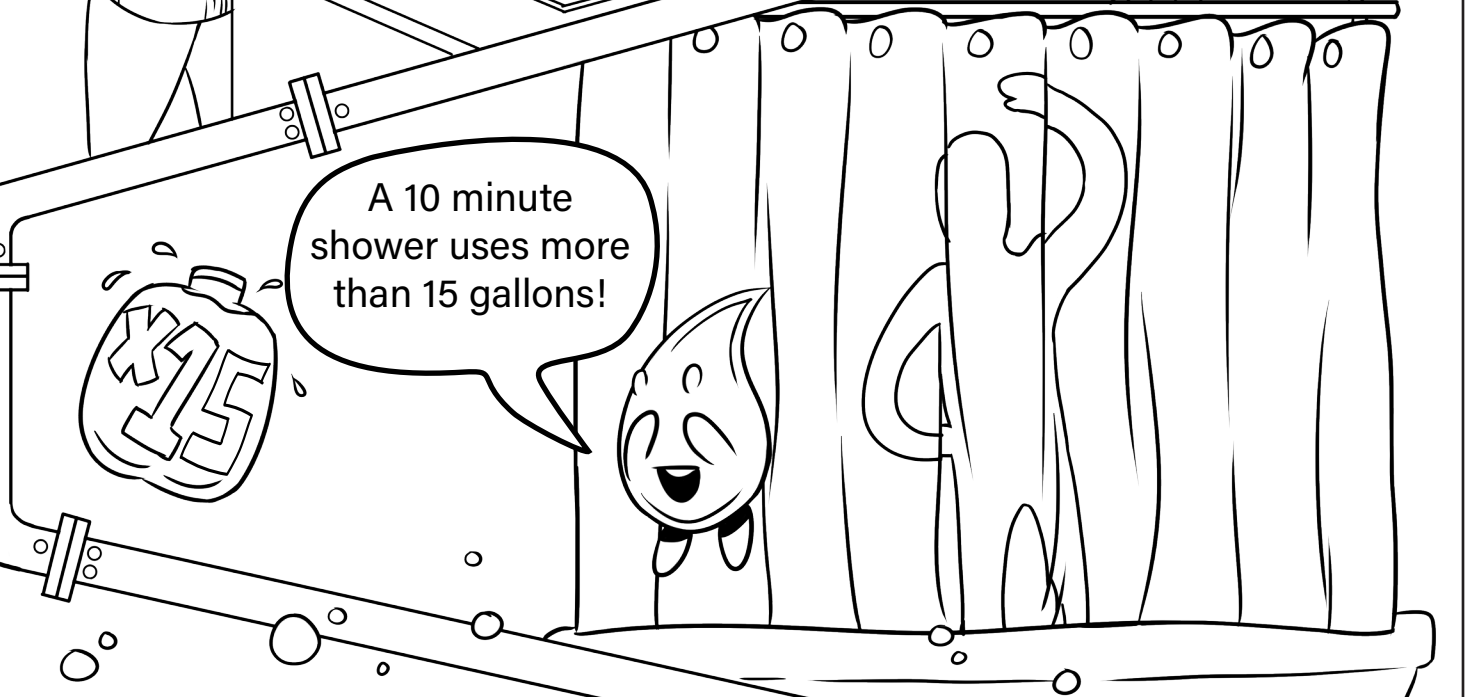
Hey, I'm Drippy!  
I'm a water droplet  
made of H<sub>2</sub>O.

My friends and I  
make up rain, rivers,  
and even oceans!

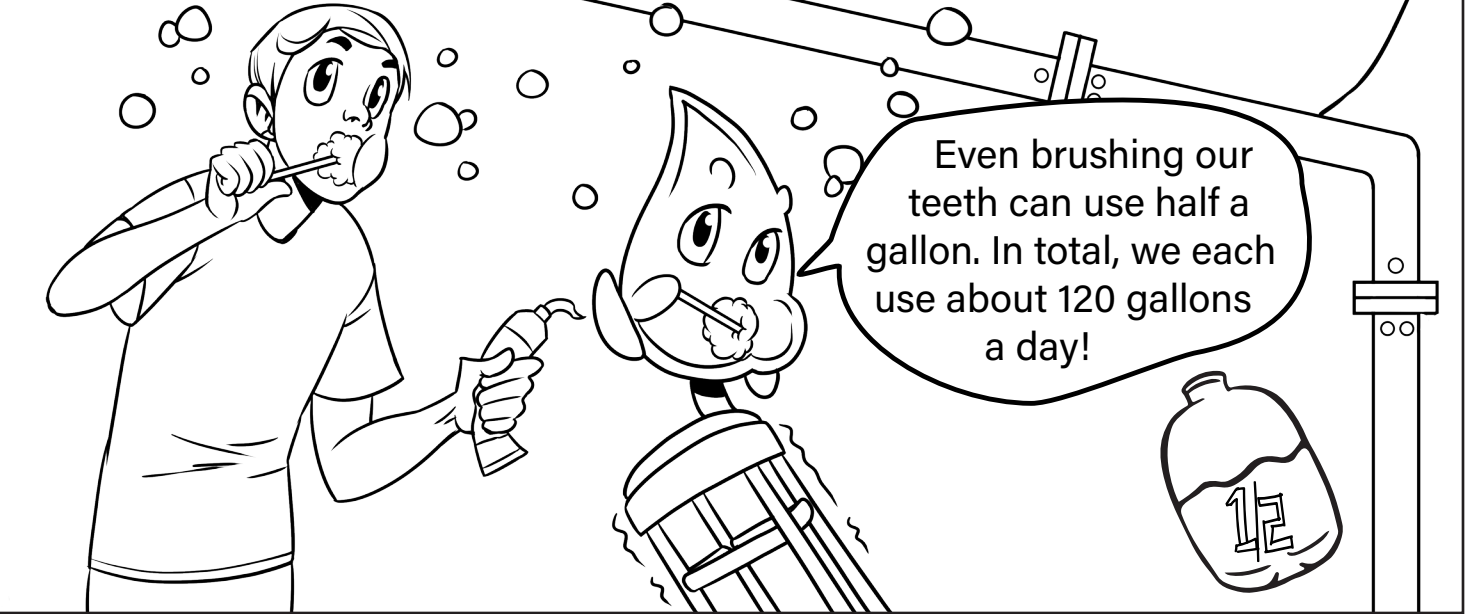
Follow me on this  
adventure to see how  
water cycles through  
New York City.



We use a lot of water every day! Washing dishes for just two minutes uses 3 gallons of water.

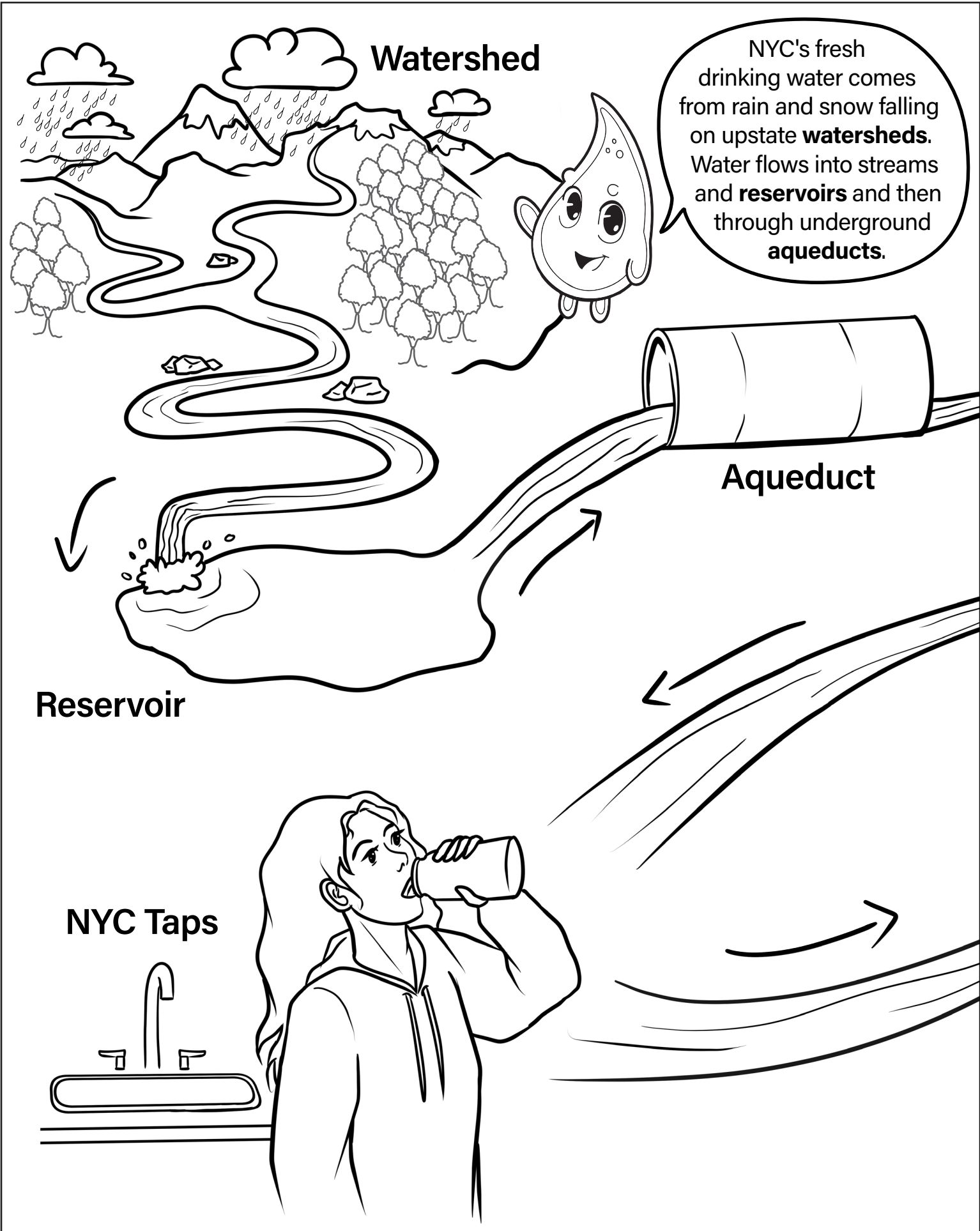


A 10 minute shower uses more than 15 gallons!



Even brushing our teeth can use half a gallon. In total, we each use about 120 gallons a day!

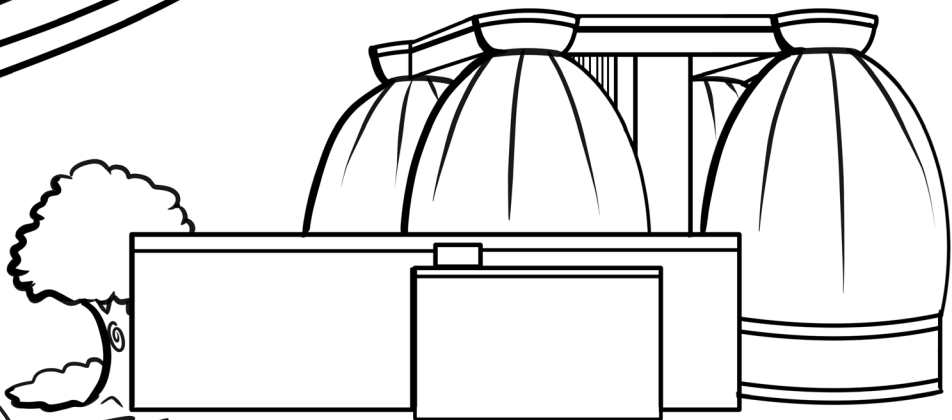




City



Wastewater Resource Recovery Facility

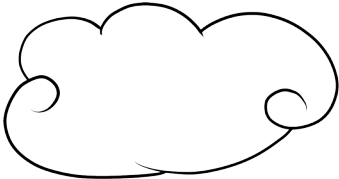


Sewer

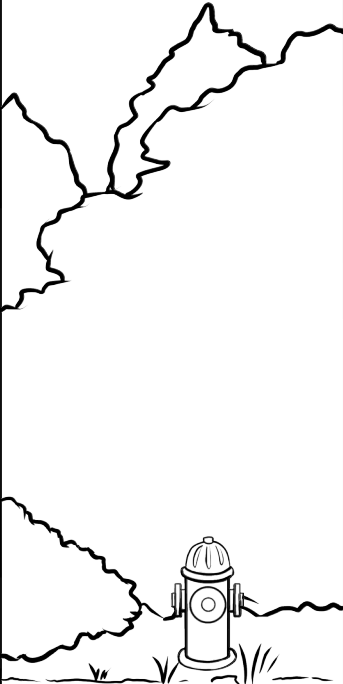
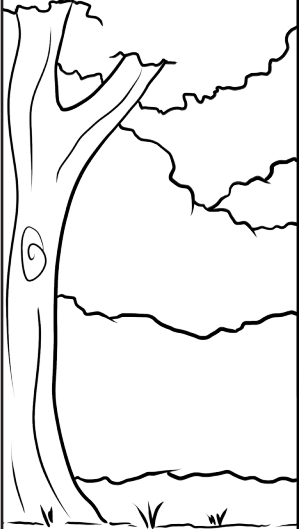
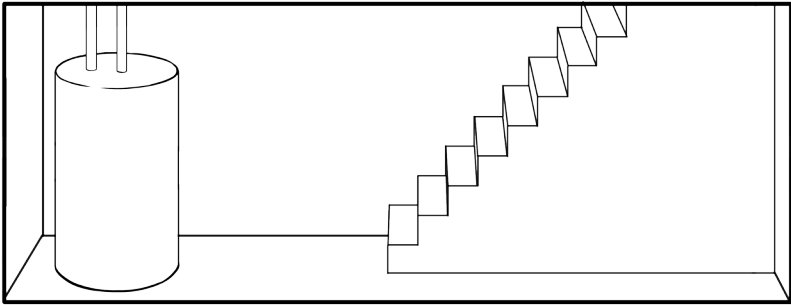
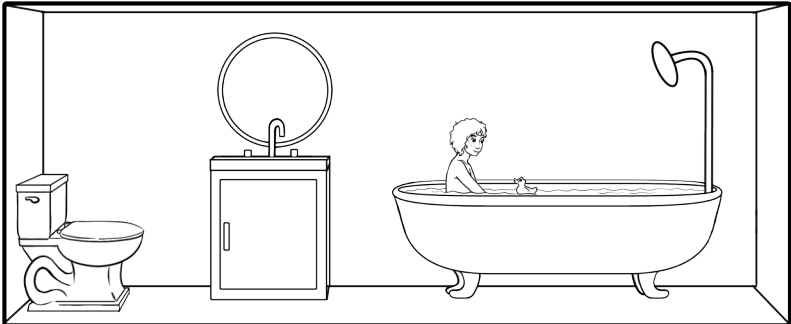
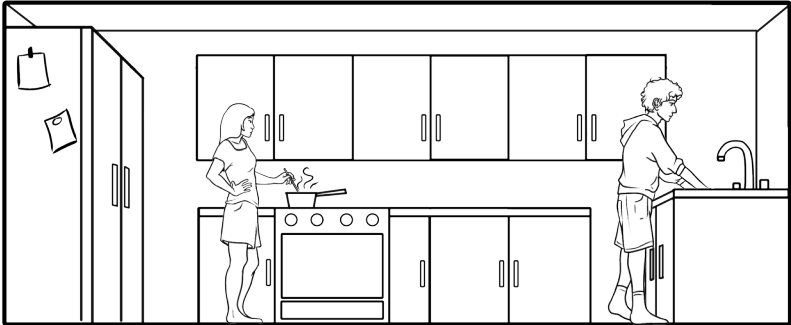
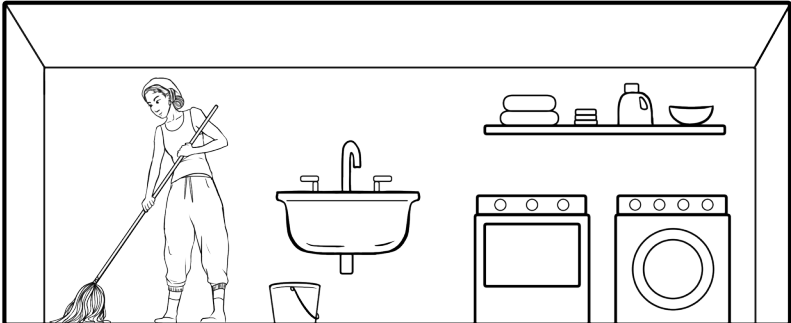
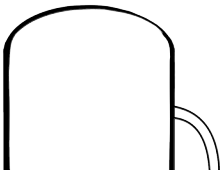
NYC Waterways

After we use water, our **wastewater** flows down the drains and through underground **sewers** to a facility. Water is cleaned and then returned to NYC's waterways!

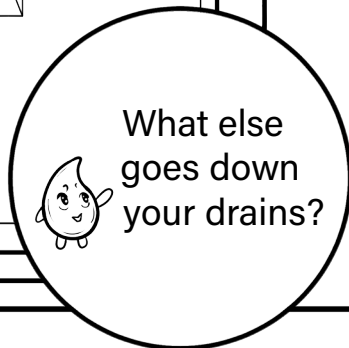
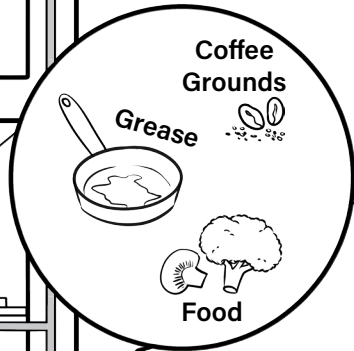




We use water at home for cooking, cleaning, and bathing. How else do you use water? Color in these activities below.

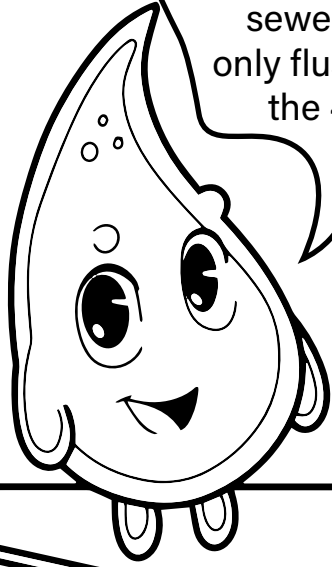


Water that we use becomes **wastewater**. Trace the flow of water through the building from the rooftop water tank to the underground sewer pipe. Color in the things that get collected with wastewater.

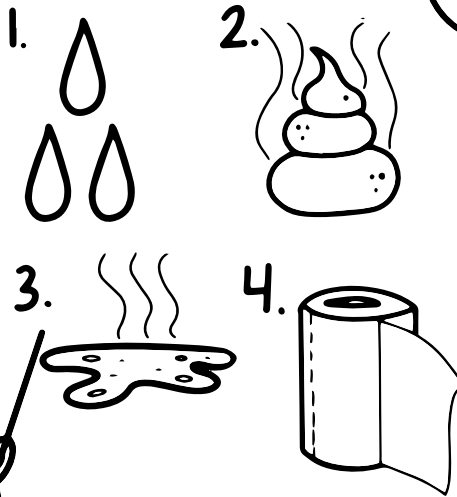
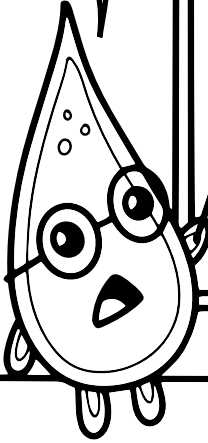




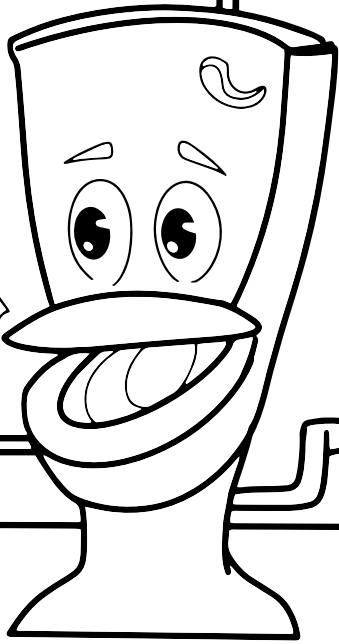
You can help protect NYC's sewers by only flushing the 4 Ps!



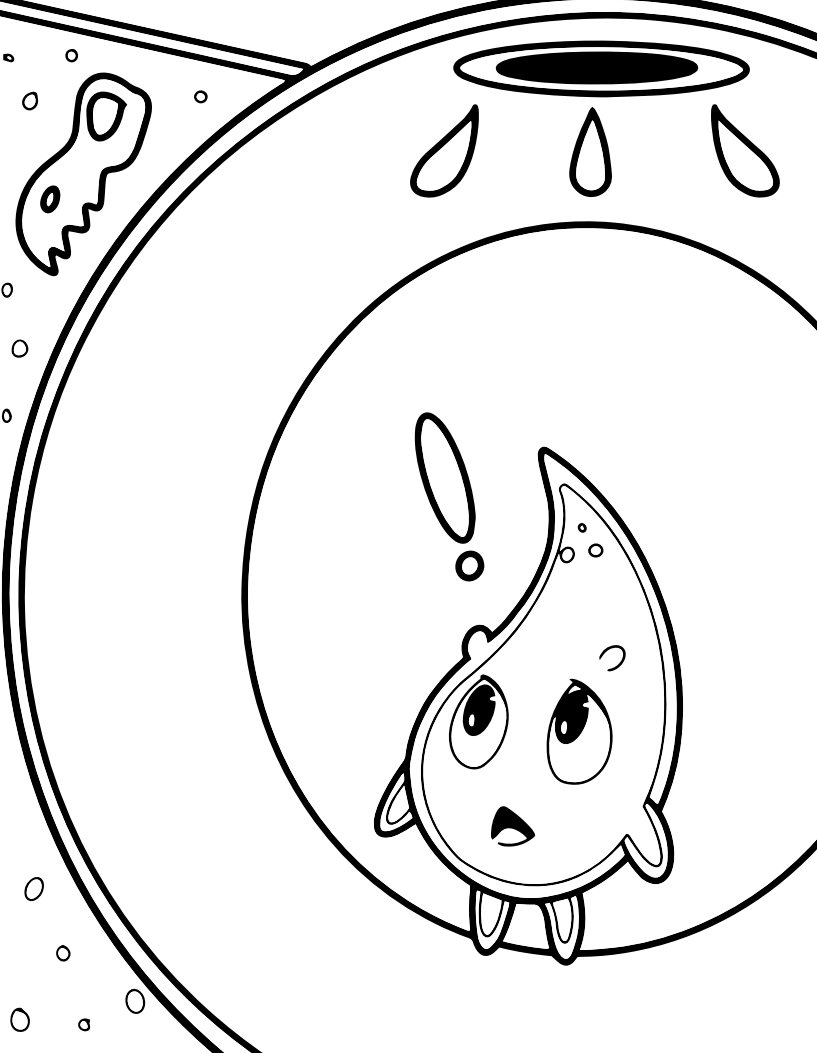
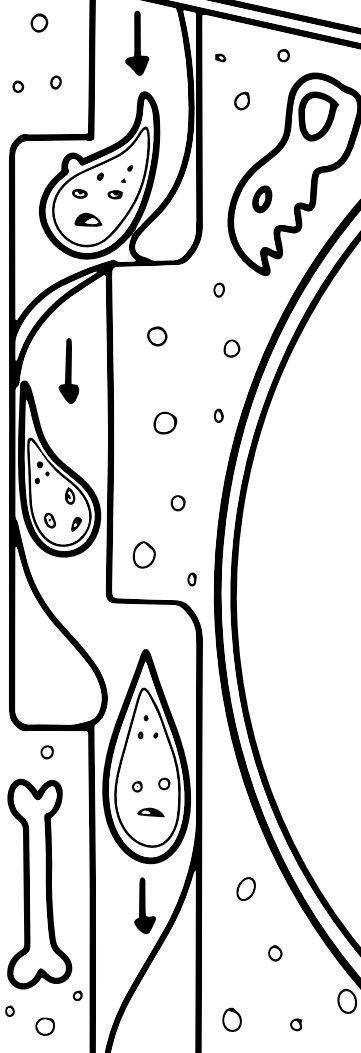
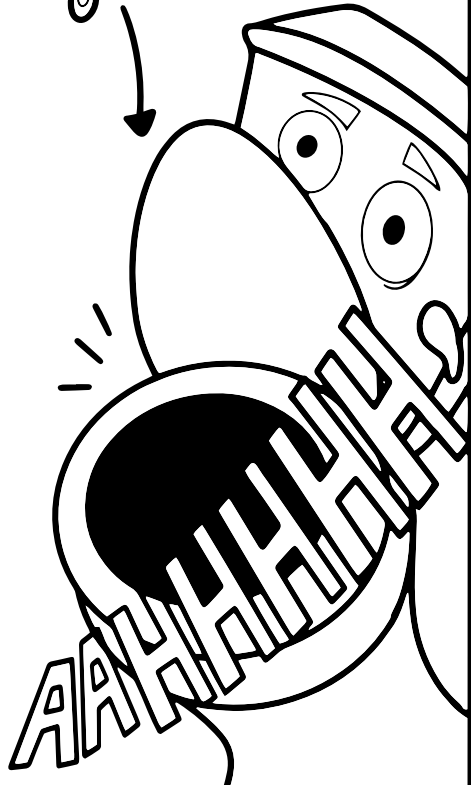
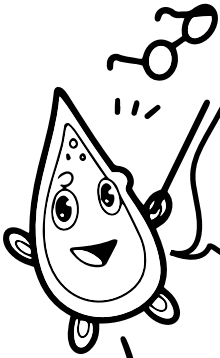
- 1. Pee
- 2. Poop
- 3. Puke
- 4. Paper

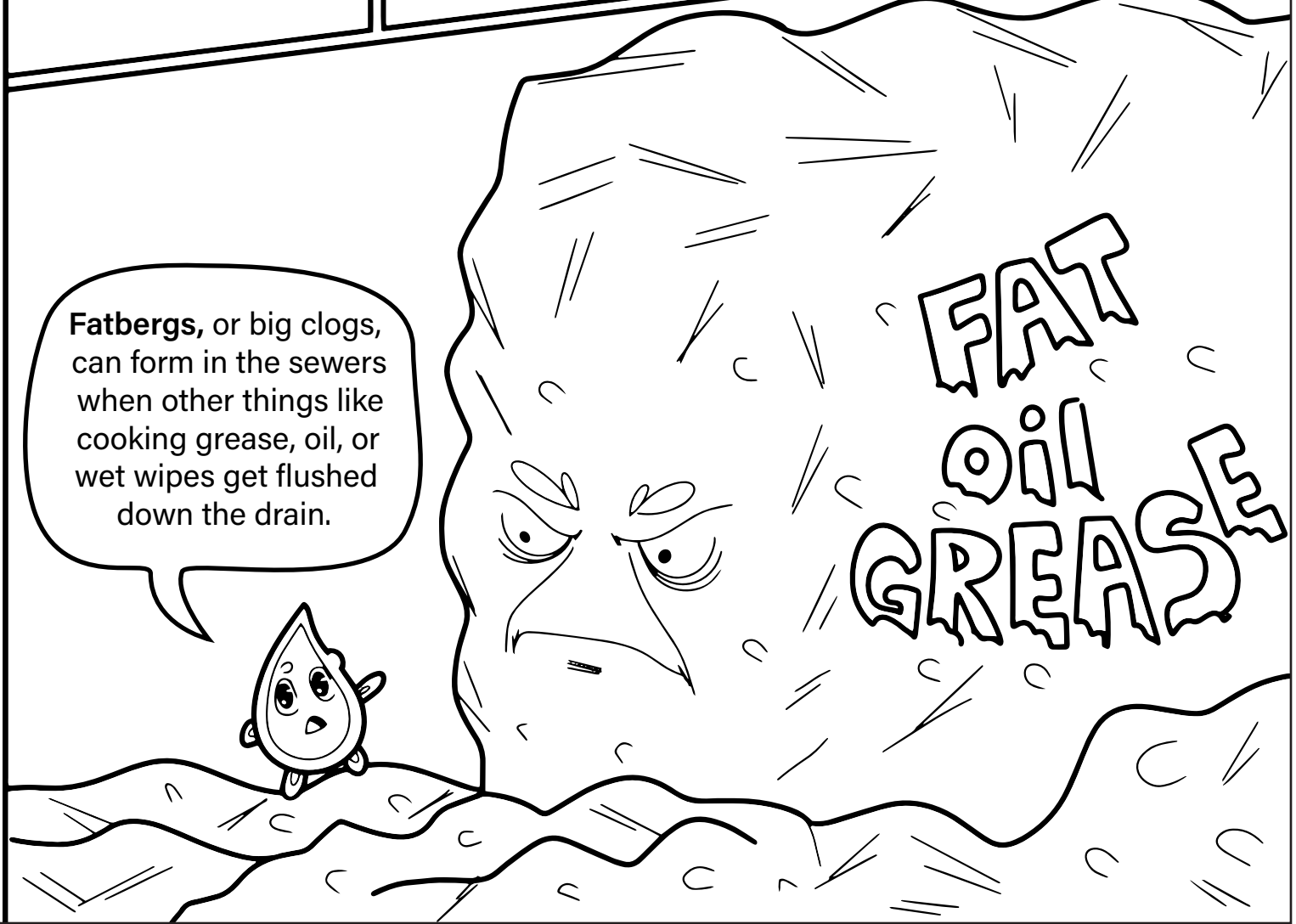
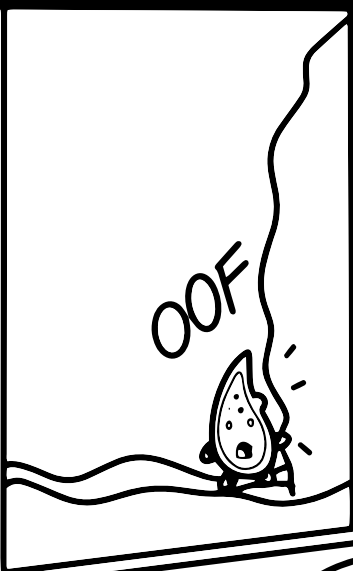
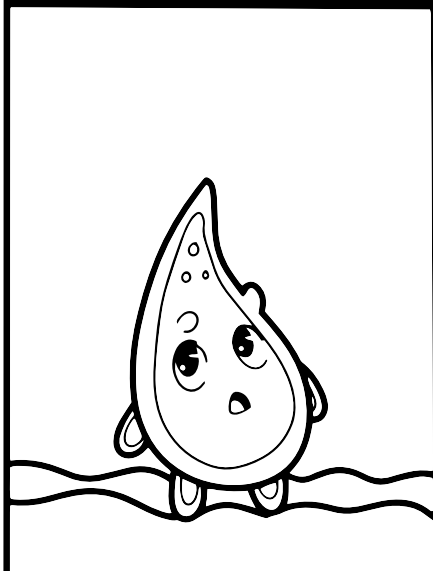
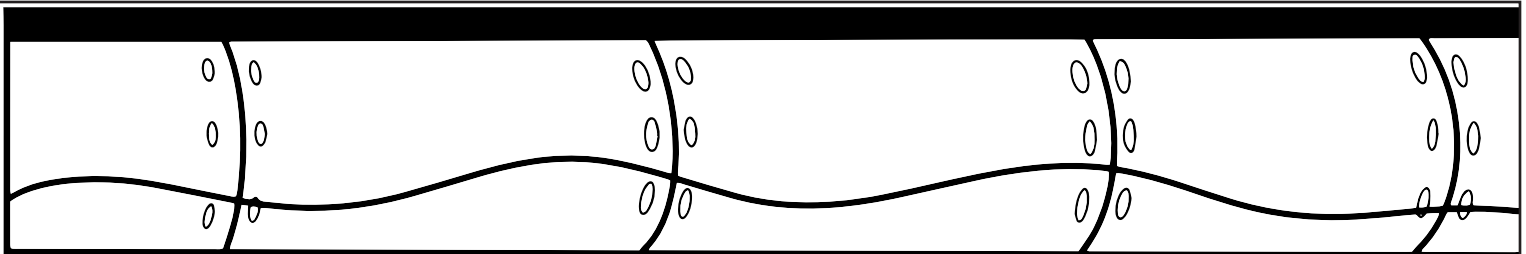


Thank you!



Now let's explore the sewer system!





Fatbergs, or big clogs, can form in the sewers when other things like cooking grease, oil, or wet wipes get flushed down the drain.

**FAT  
OIL  
GREASE**

Most of the things in this picture should NOT be found in the sewers.

Can you find and color in the...

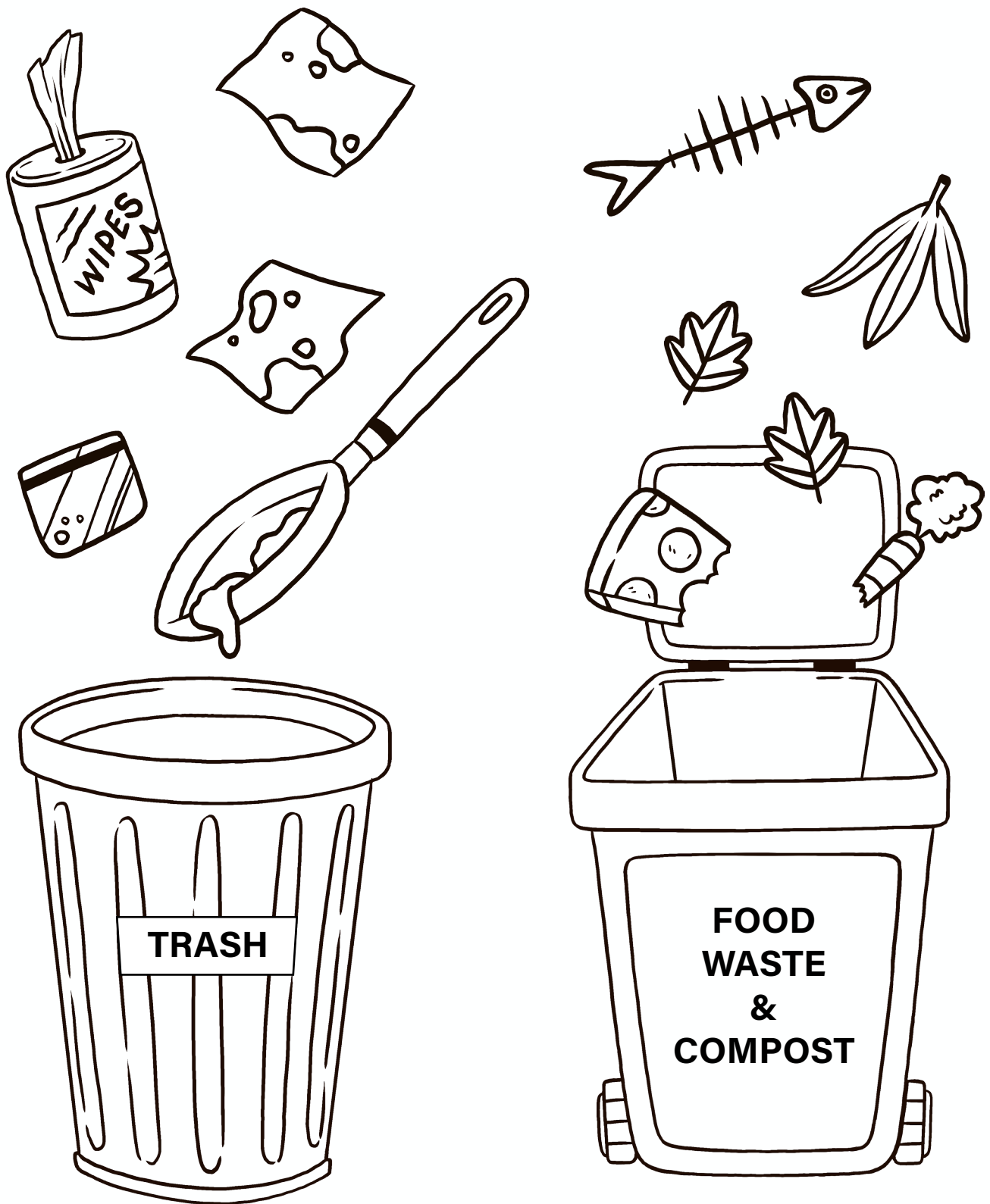
- Wet wipes
- Milk carton
- Plastic bag
- Banana peel
- 3 Bandages
- Ice cream
- Plunger
- Diaper
- Candy wrapper







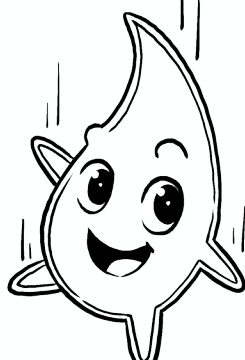
**Remember, only the 4 Ps (pee, poop, puke, and toilet paper) should be flushed down the drain! Everything else should be put in the garbage, recycled, or composted if possible.**



Plastics, glass, metal, cartons, paper, cardboard, food scraps, and yard waste can all be separated into bins and recycled or composted.

## Did you know?

NYC has 14 **wastewater resource recovery facilities** where our dirty water goes to be cleaned. During this process, we can even turn your poop into energy and soil!





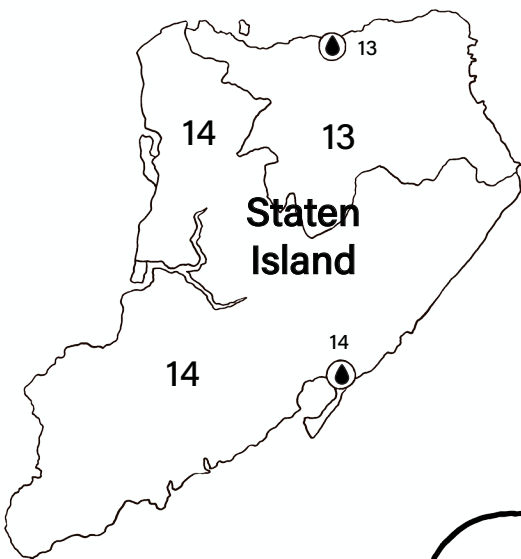
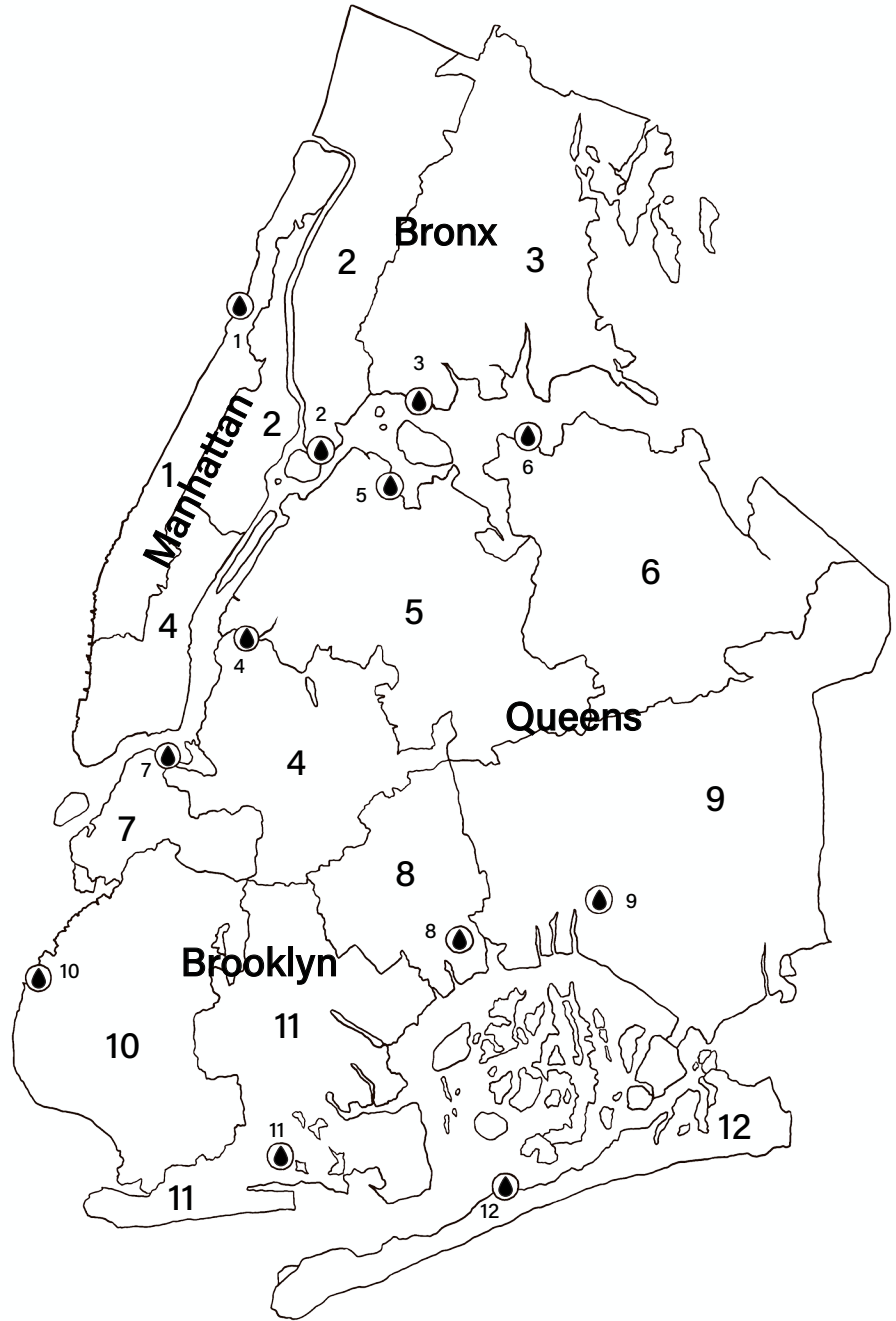
Can you find  
which facility  
your wastewater  
goes to?

Color by Number: Use the numbers on the map to color in the areas that flow to each of the 14 facilities.

**New York City  
Wastewater Resource  
Recovery Facilities**

- 1) North River
- 2) Wards Island
- 3) Hunts Point
- 4) Newtown Creek
- 5) Bowery Bay
- 6) Tallman Island
- 7) Red Hook
- 8) 26th Ward
- 9) Jamaica
- 10) Owls Head
- 11) Coney Island
- 12) Rockaway
- 13) Port Richmond
- 14) Oakwood Beach

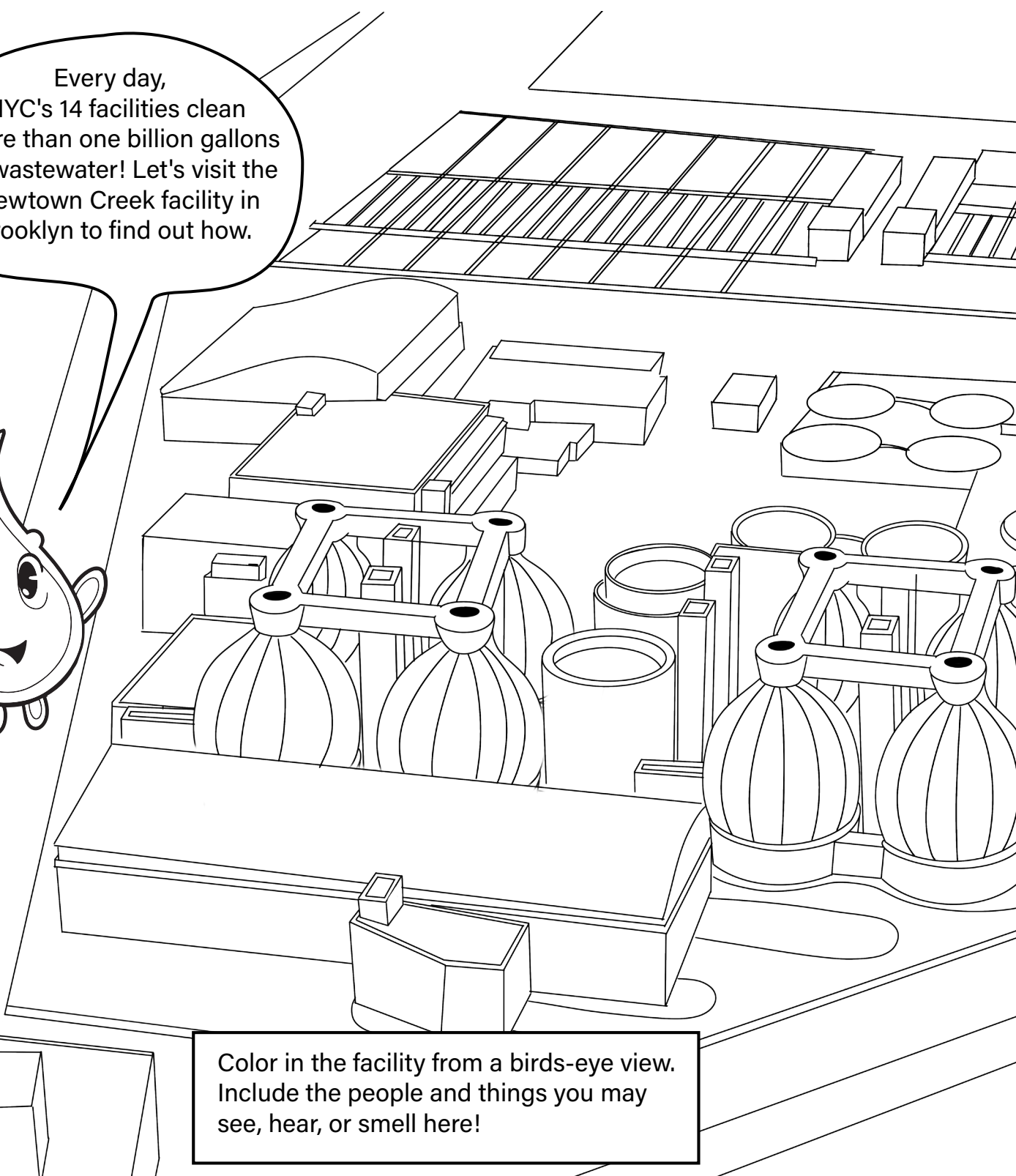
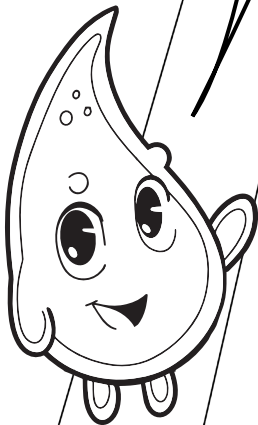
-  Wastewater Resource Recovery Facility
-  Drainage Area Boundaries





# Welcome to the Newtown Creek facility!

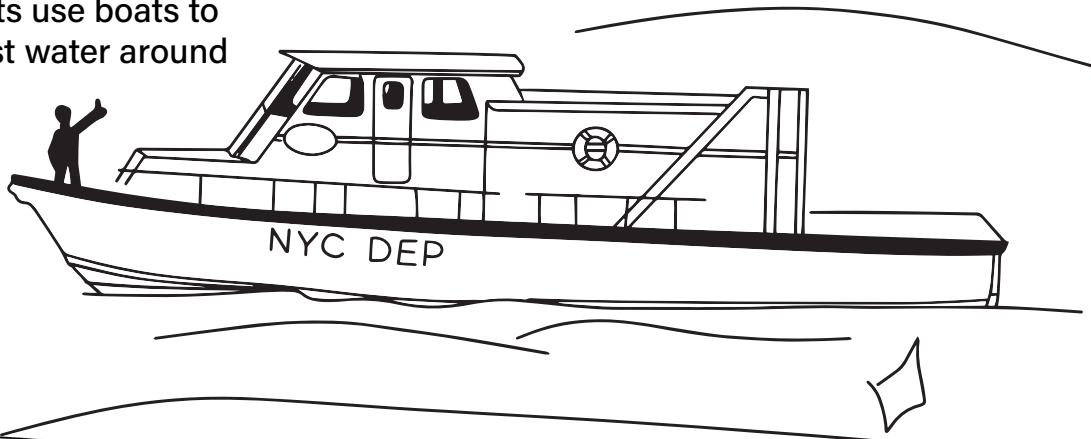
Every day,  
NYC's 14 facilities clean  
more than one billion gallons  
of wastewater! Let's visit the  
Newtown Creek facility in  
Brooklyn to find out how.



Color in the facility from a birds-eye view.  
Include the people and things you may  
see, hear, or smell here!

Some scientists use boats to collect and test water around the harbor!

②



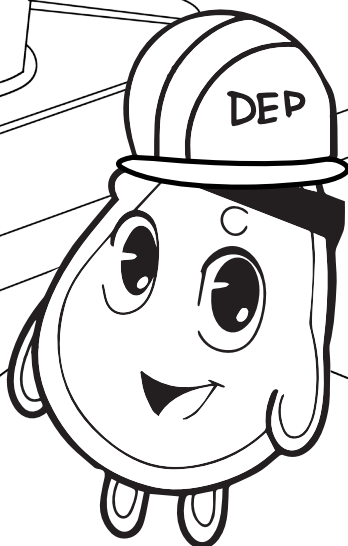
Scientists test and study the **water quality** to make sure the wastewater is cleaned properly!


①



Sewage treatment workers and engineers work together to clean our wastewater step-by-step.

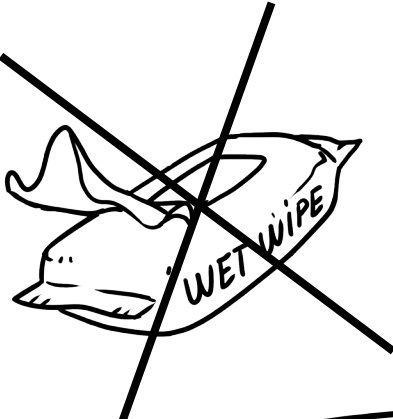
③



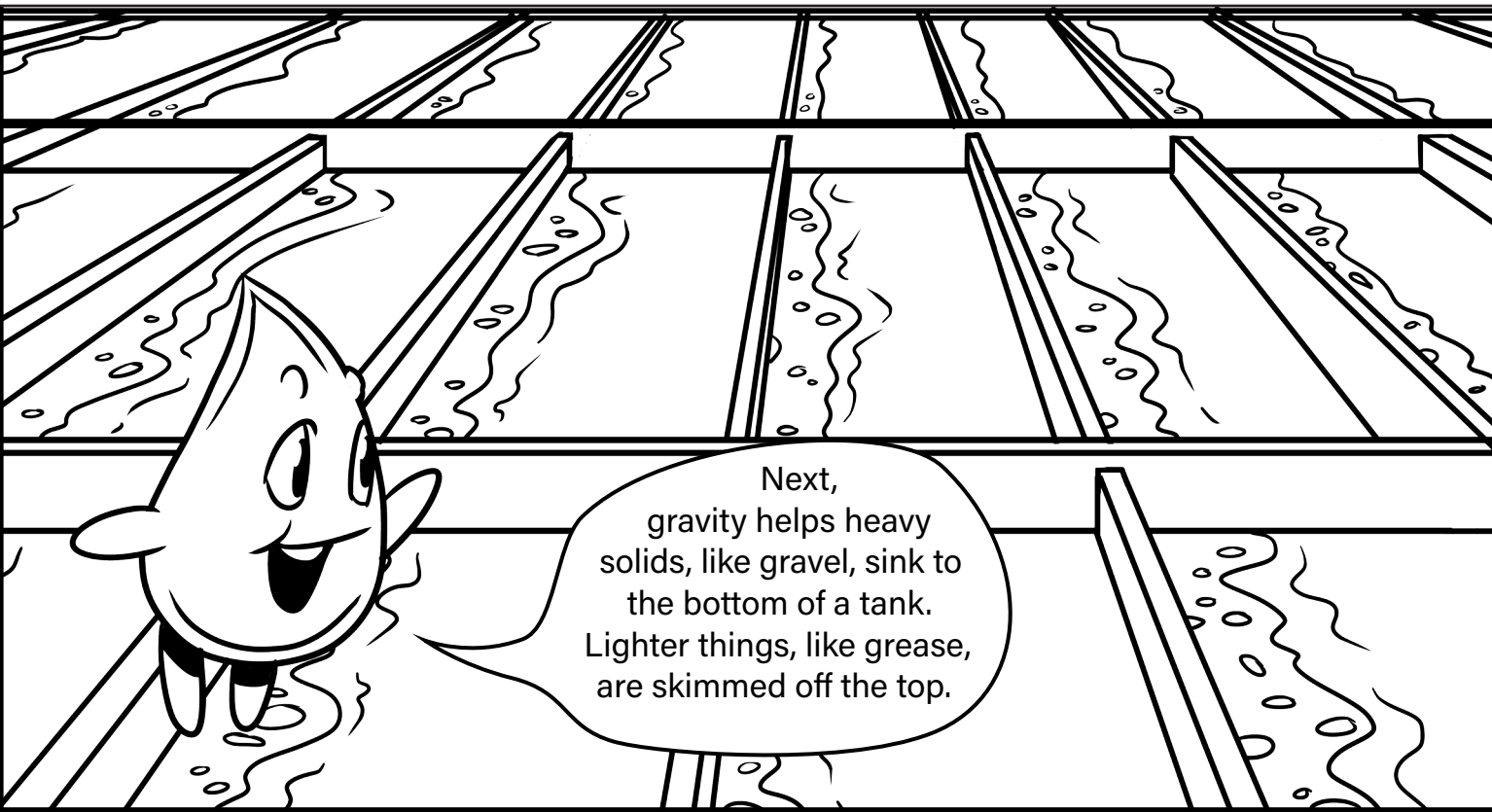


Now let's take a closer look at each step of the process.

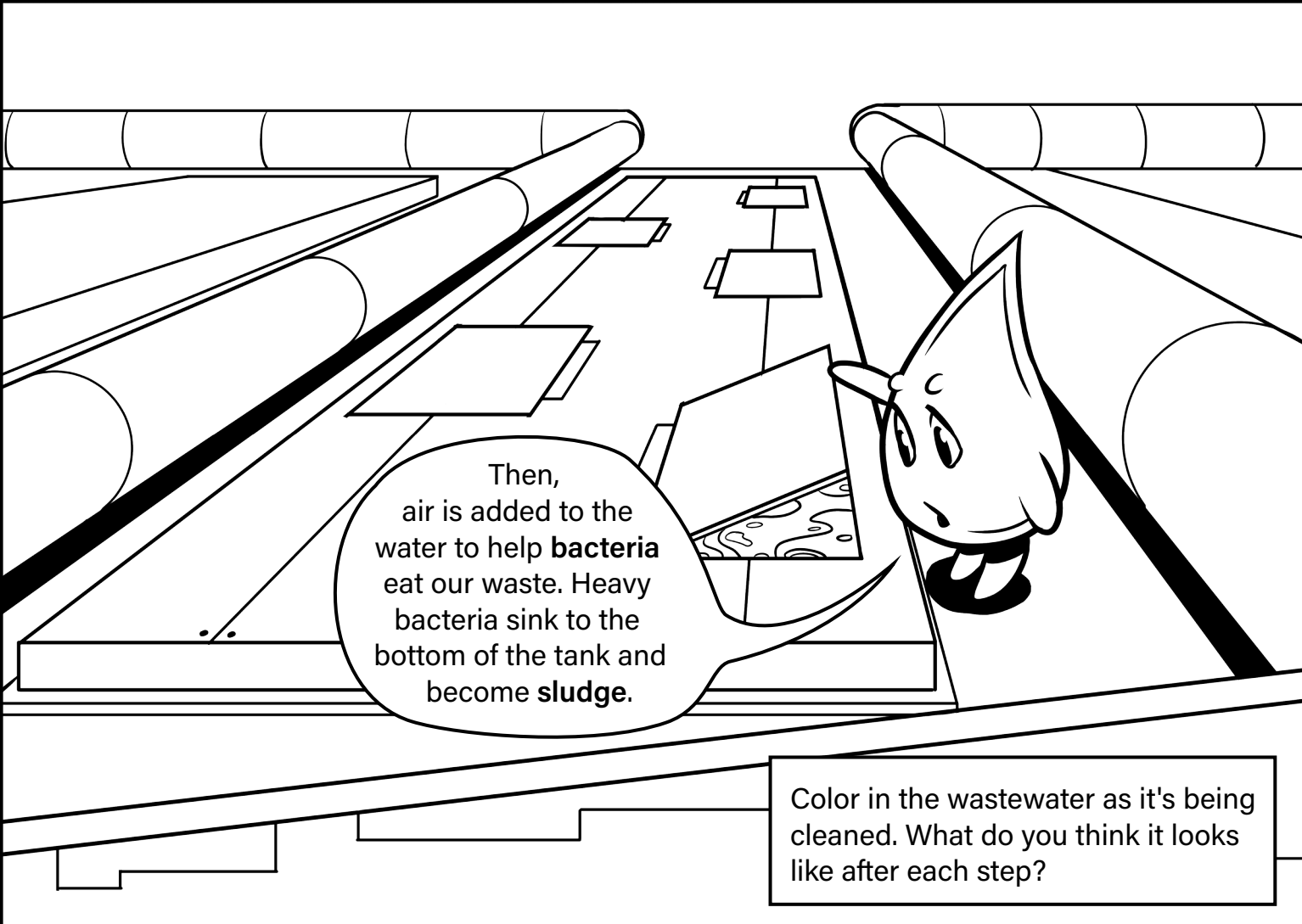
Hi,  
I'm a screen!  
I remove big things like twigs, leaves, and trash from the wastewater as it flows into the facility.



Wet wipes and other trash can jam me up! You can help me do my job by only flushing the 4 Ps.

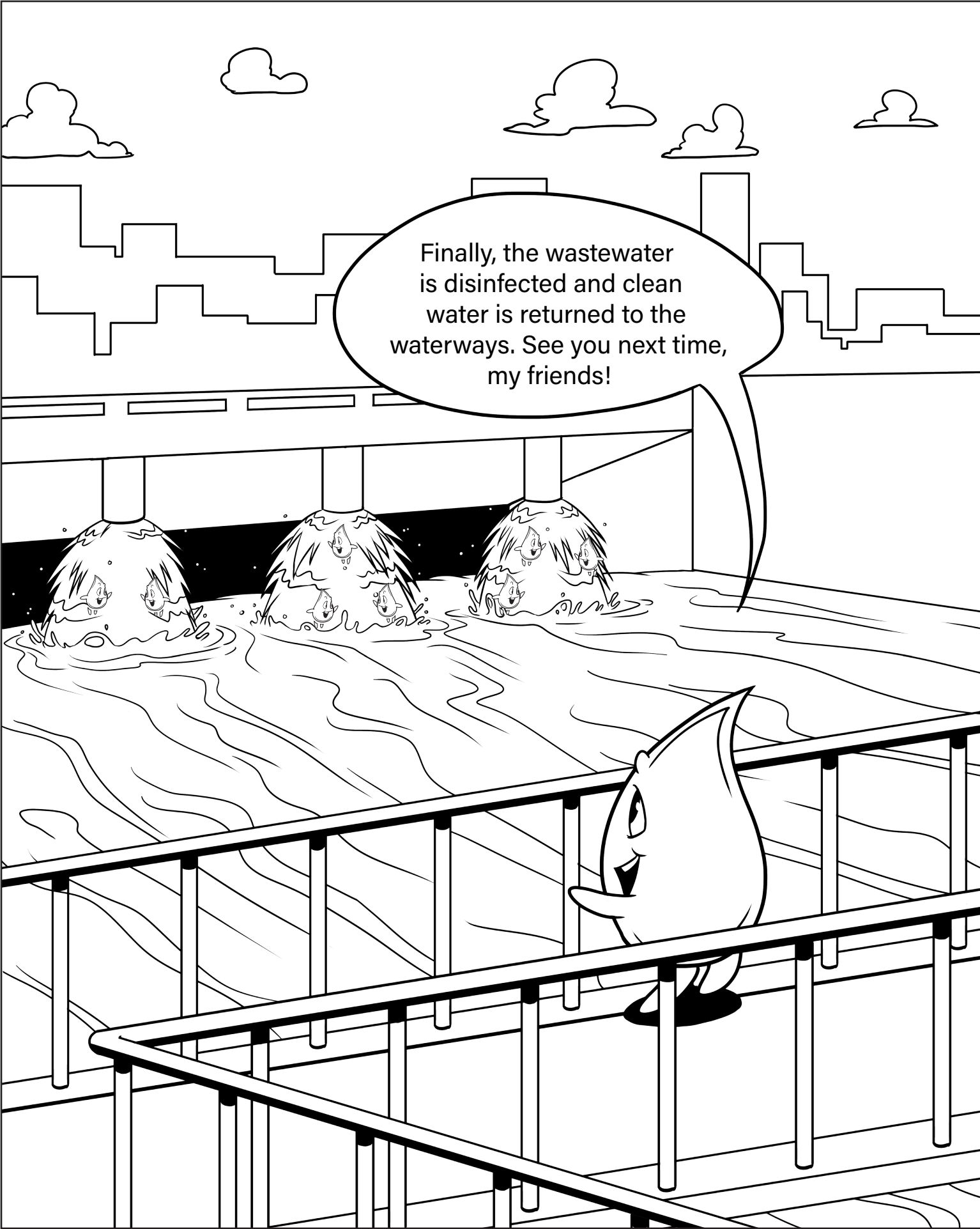


Next, gravity helps heavy solids, like gravel, sink to the bottom of a tank. Lighter things, like grease, are skimmed off the top.



Then, air is added to the water to help **bacteria** eat our waste. Heavy bacteria sink to the bottom of the tank and become **sludge**.


Color in the wastewater as it's being cleaned. What do you think it looks like after each step?



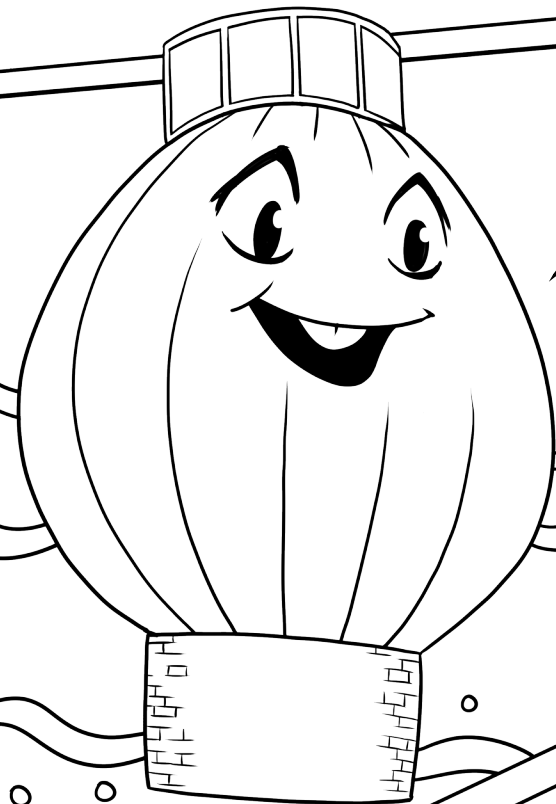
Finally, the wastewater is disinfected and clean water is returned to the waterways. See you next time, my friends!




Hello!



Oh wow, you're the Digester Eggs! Is this where all the sludge goes to be cleaned?



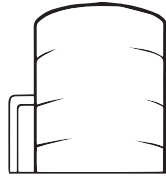
That's right! We're like giant stomachs - we digest the sludge and turn it into energy and soil.



Whoa, that's a lot of renewable resources!

Color in the Digester Eggs. What color do you think the sludge is inside the tanks?

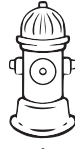
Legend:



Water Tank



Water Sampling Station



Fire Hydrant



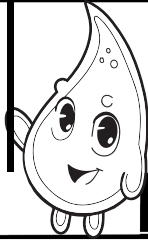
Catch Basin



Sewer Cover



Water **infrastructure** can be found everywhere! Use the legend to color in the different types of infrastructure.





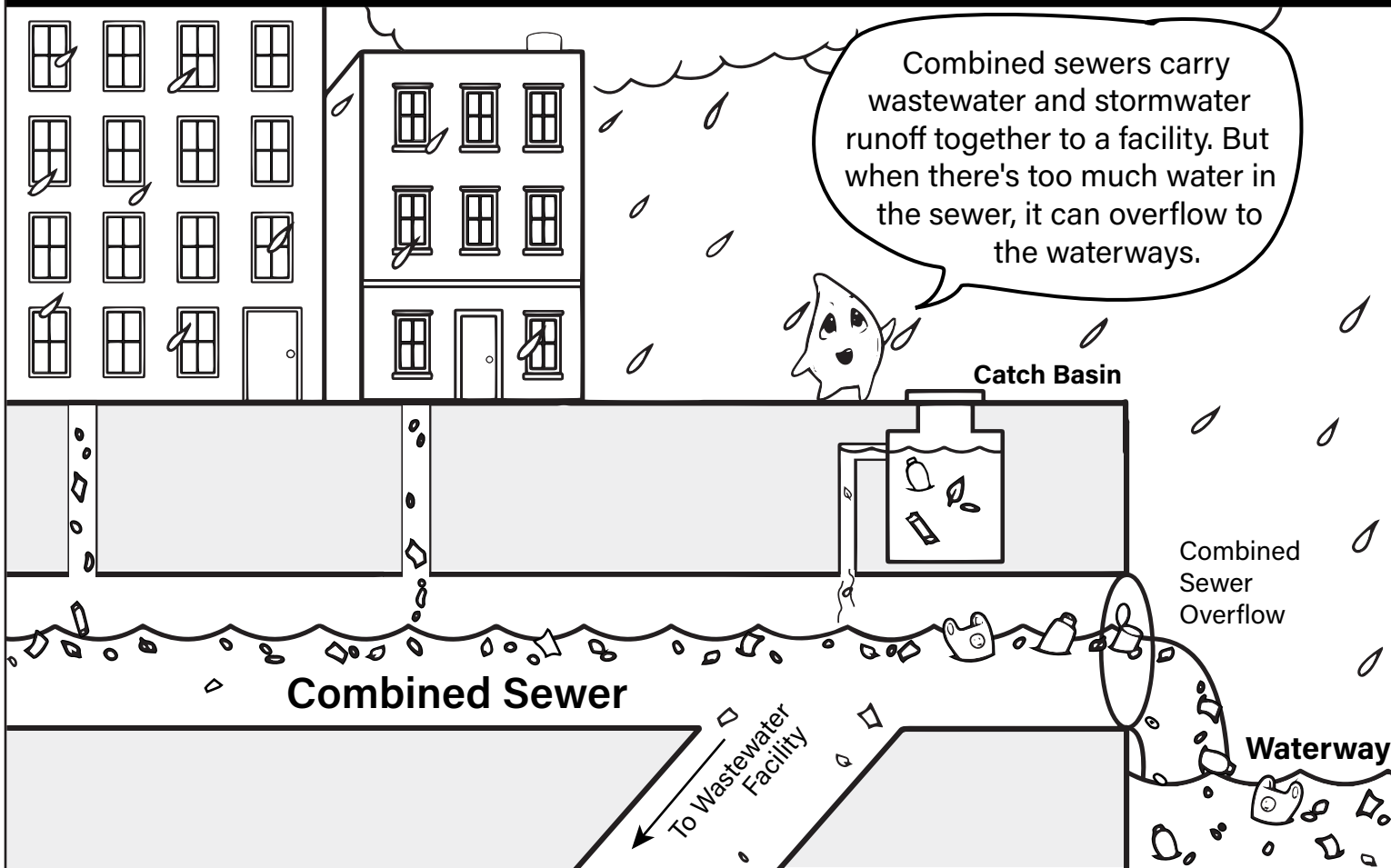
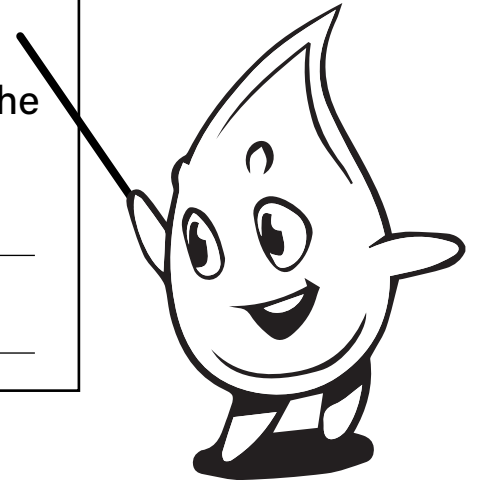
Sewers collect wastewater from homes and stormwater runoff from streets. Most of NYC has combined sewers, while some areas near waterways have separate sewers.

Follow the flow! Color wastewater orange and stormwater runoff blue.

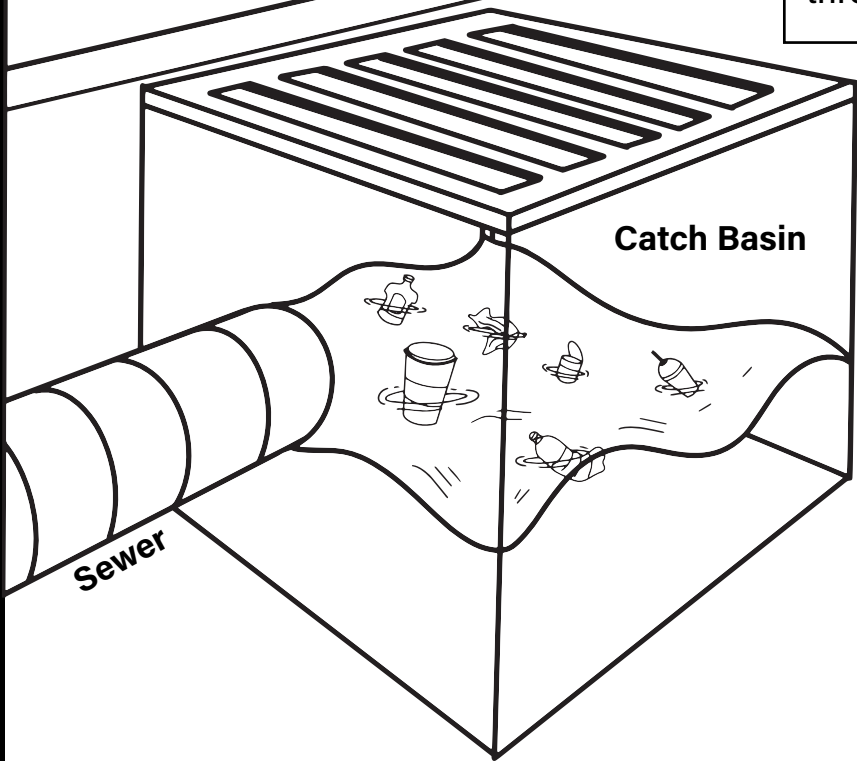
What do you think we can do to help protect the waterways when it rains?

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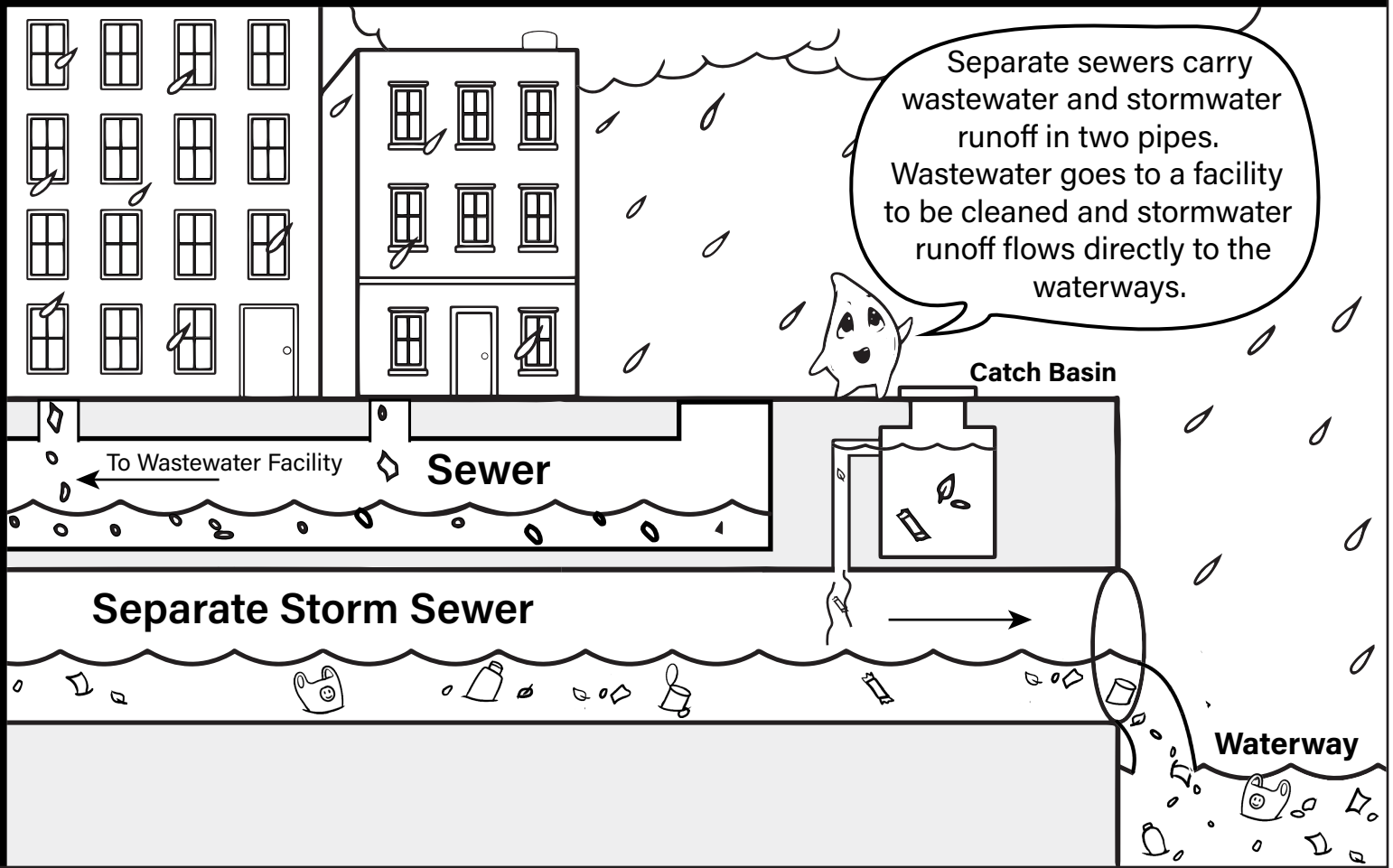
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**Catch basins** collect **stormwater runoff** from streets and sidewalks. Trash that's not thrown out or recycled can also end up here!



Litter can clog the sewer and cause flooding. It can even end up in waterways, hurting fish and wildlife!



Separate sewers carry wastewater and stormwater runoff in two pipes. Wastewater goes to a facility to be cleaned and stormwater runoff flows directly to the waterways.



**Permeable**  
Permeable surfaces  
naturally absorb water  
where it falls.

Color in anything  
that can absorb  
and use water.



About 72% of NYC is impervious!

**Impervious**  
Impervious surfaces do not allow water to pass through or infiltrate.

I wonder why there are so many puddles.

Color in anything that cannot absorb water.

# Rain Gardens in NYC

**Trees and Plants:**  
help absorb water,  
keep soil in place, and  
release water through  
evapotranspiration!

**Stone Buffer:**  
helps control the  
flow of water that  
enters and exits  
the rain garden.

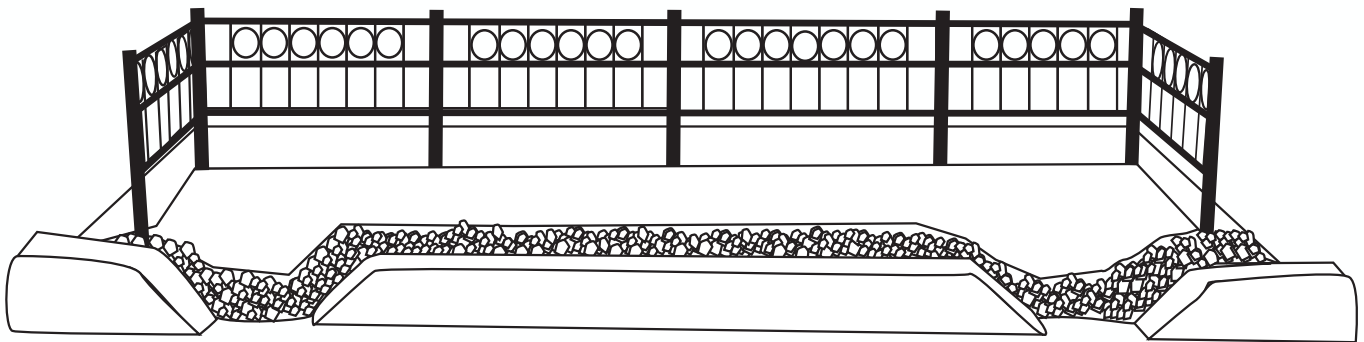
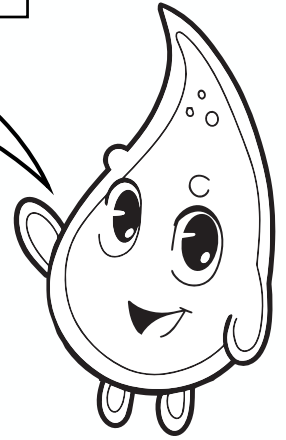
Look for this blue label to  
identify rain gardens in  
your community.

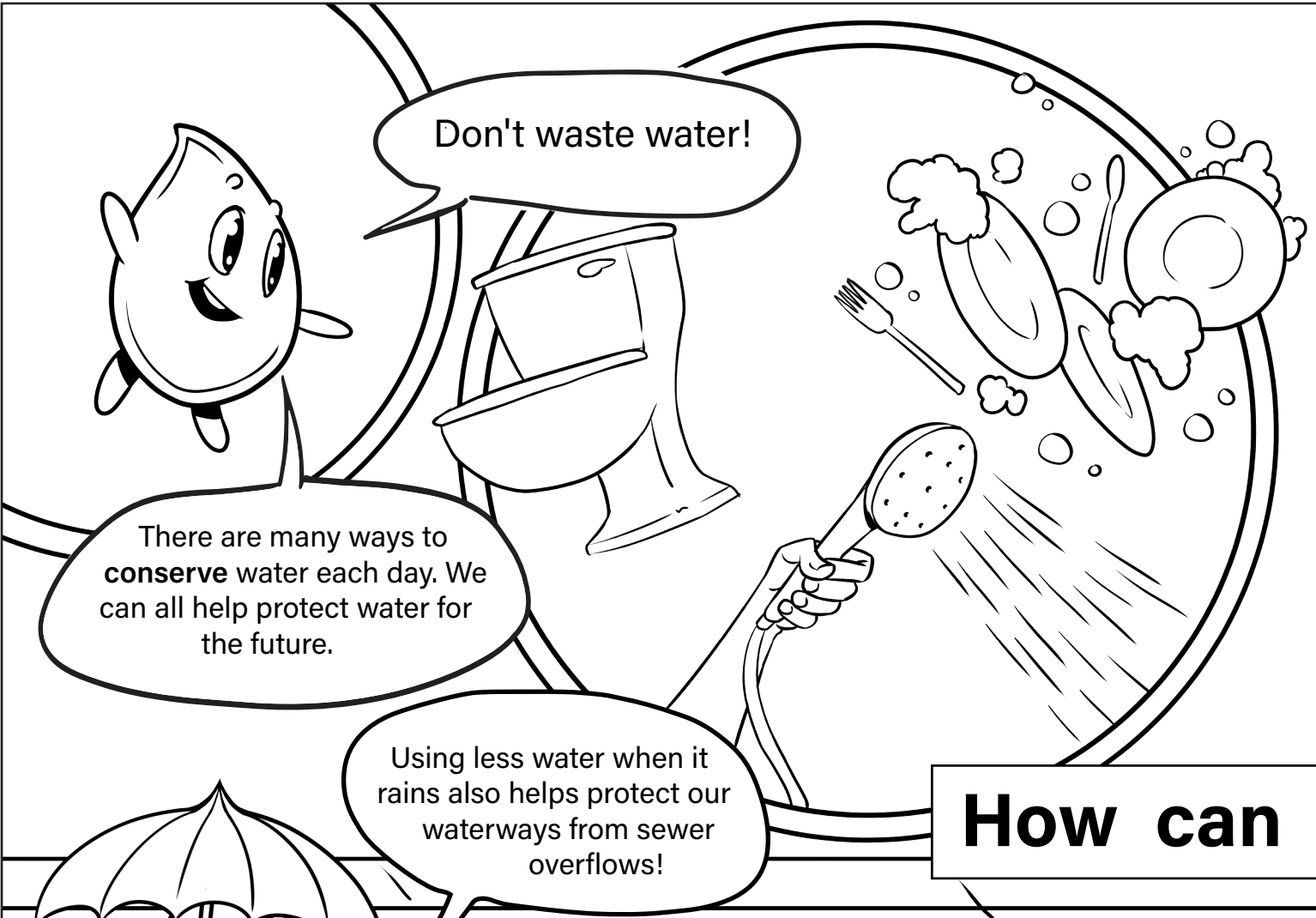
**Tree Guard:**  
works as a barrier  
to protect the tree  
and plants.

**Inlet and Outlet:**  
curb cuts that allow  
water to enter and  
exit the rain garden.

**Rain Gardens** are a type of green infrastructure. Their special layers of soil and plants can absorb more than 2,000 gallons of water when it rains! In the space below, draw your own rain garden.

Remember to include a variety of plants and the pollinators they attract!

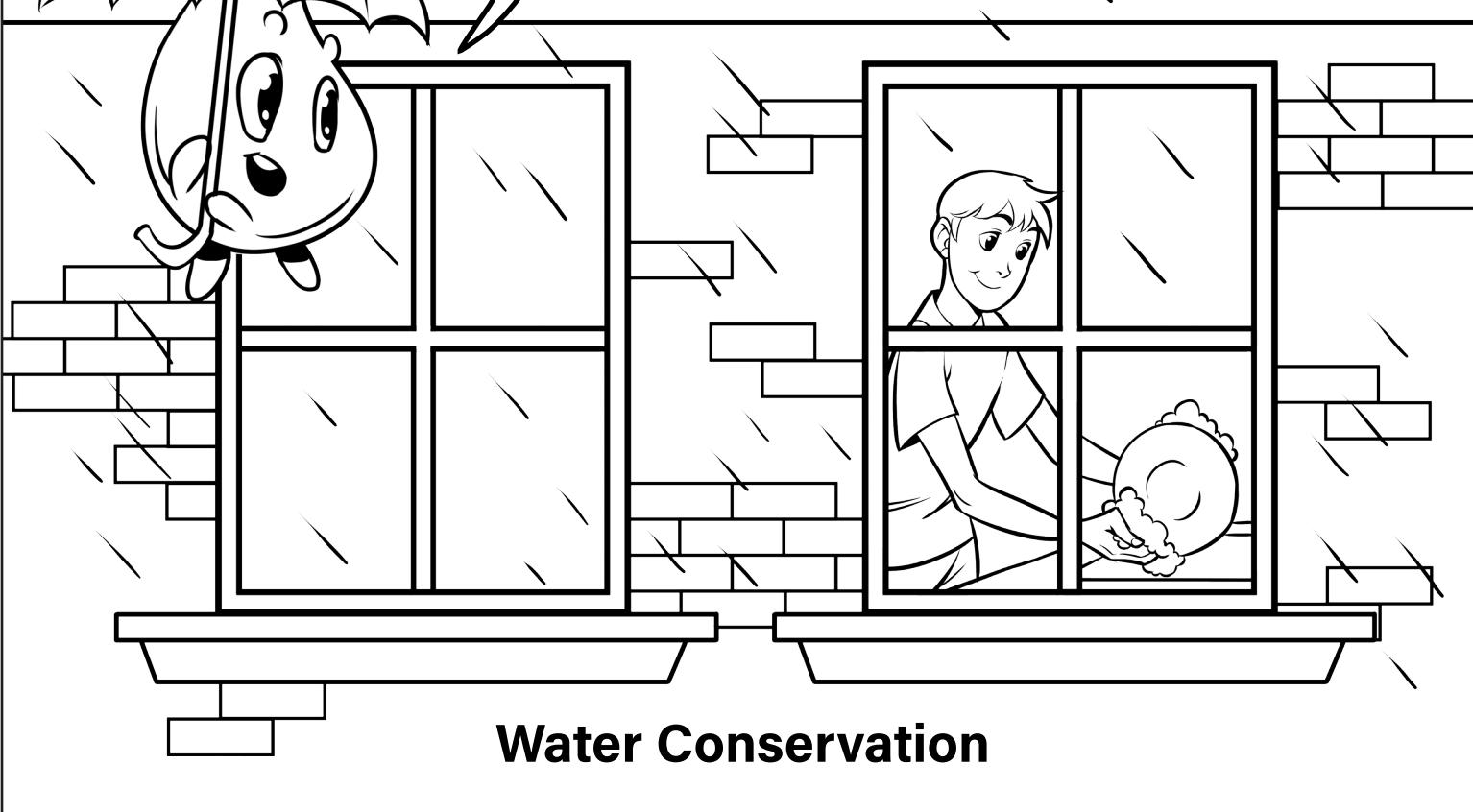




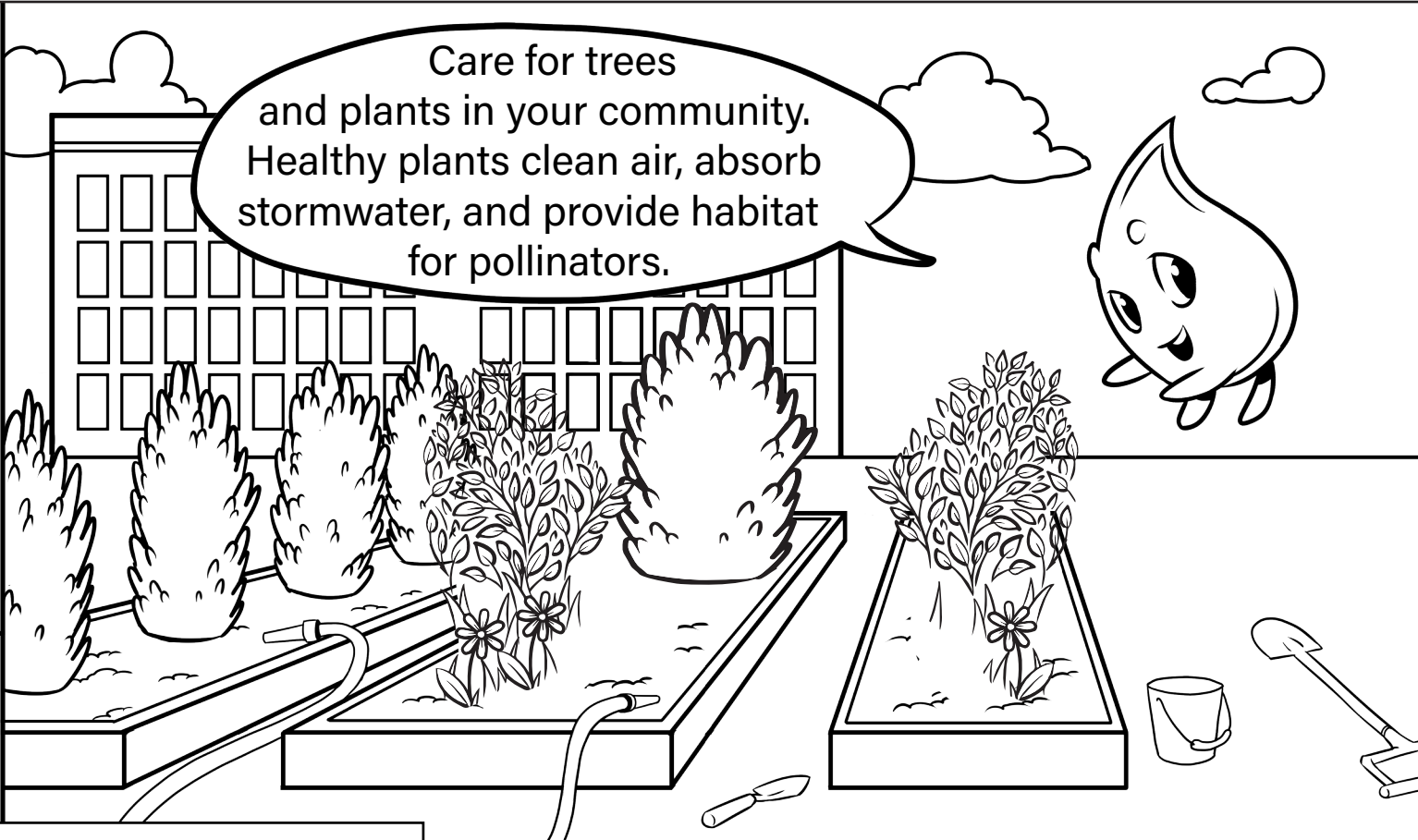
There are many ways to **conserve** water each day. We can all help protect water for the future.

Using less water when it rains also helps protect our waterways from sewer overflows!

**How can**

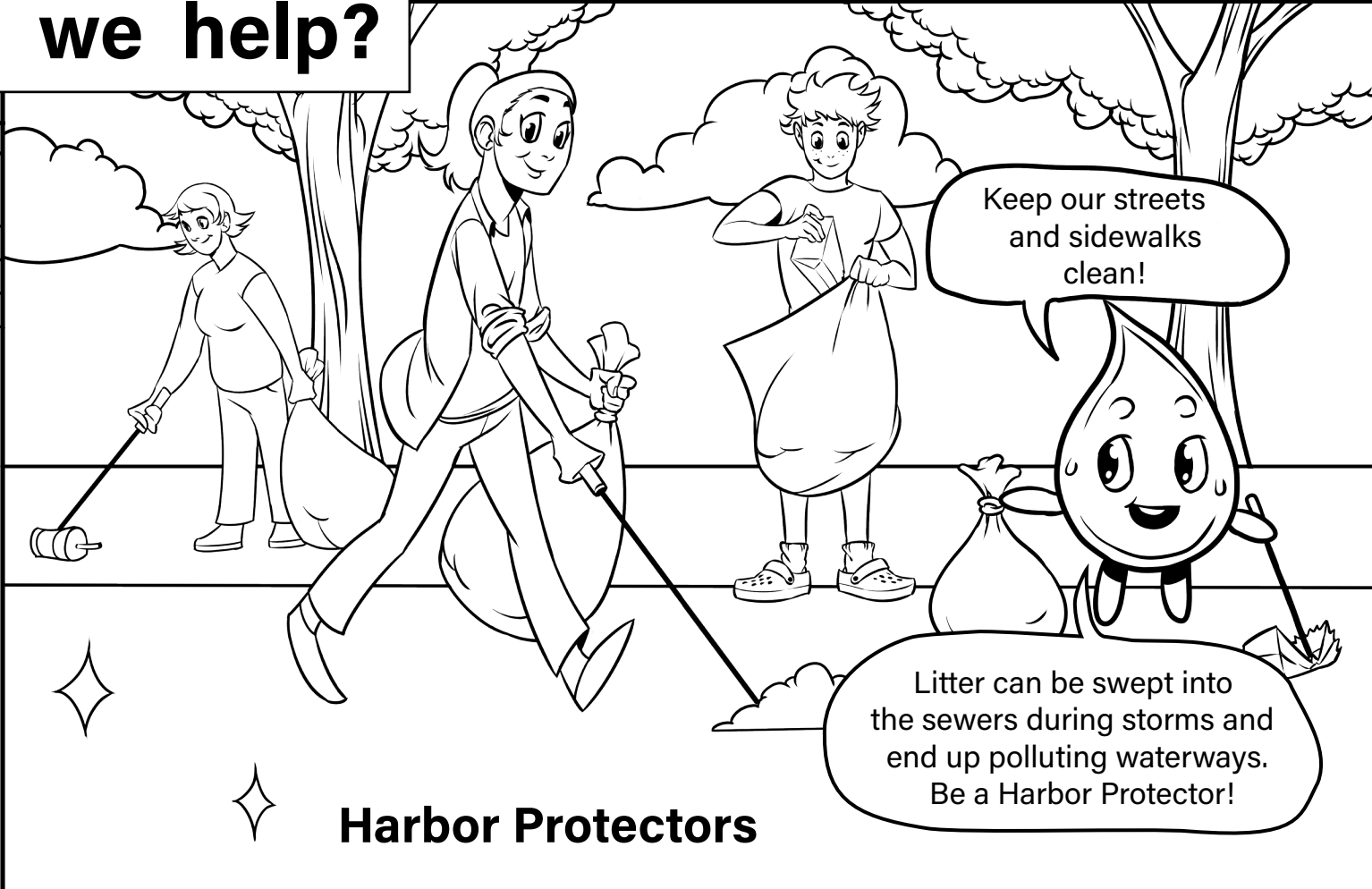


**Water Conservation**



Care for trees  
and plants in your community.  
Healthy plants clean air, absorb  
stormwater, and provide habitat  
for pollinators.

**we help?**

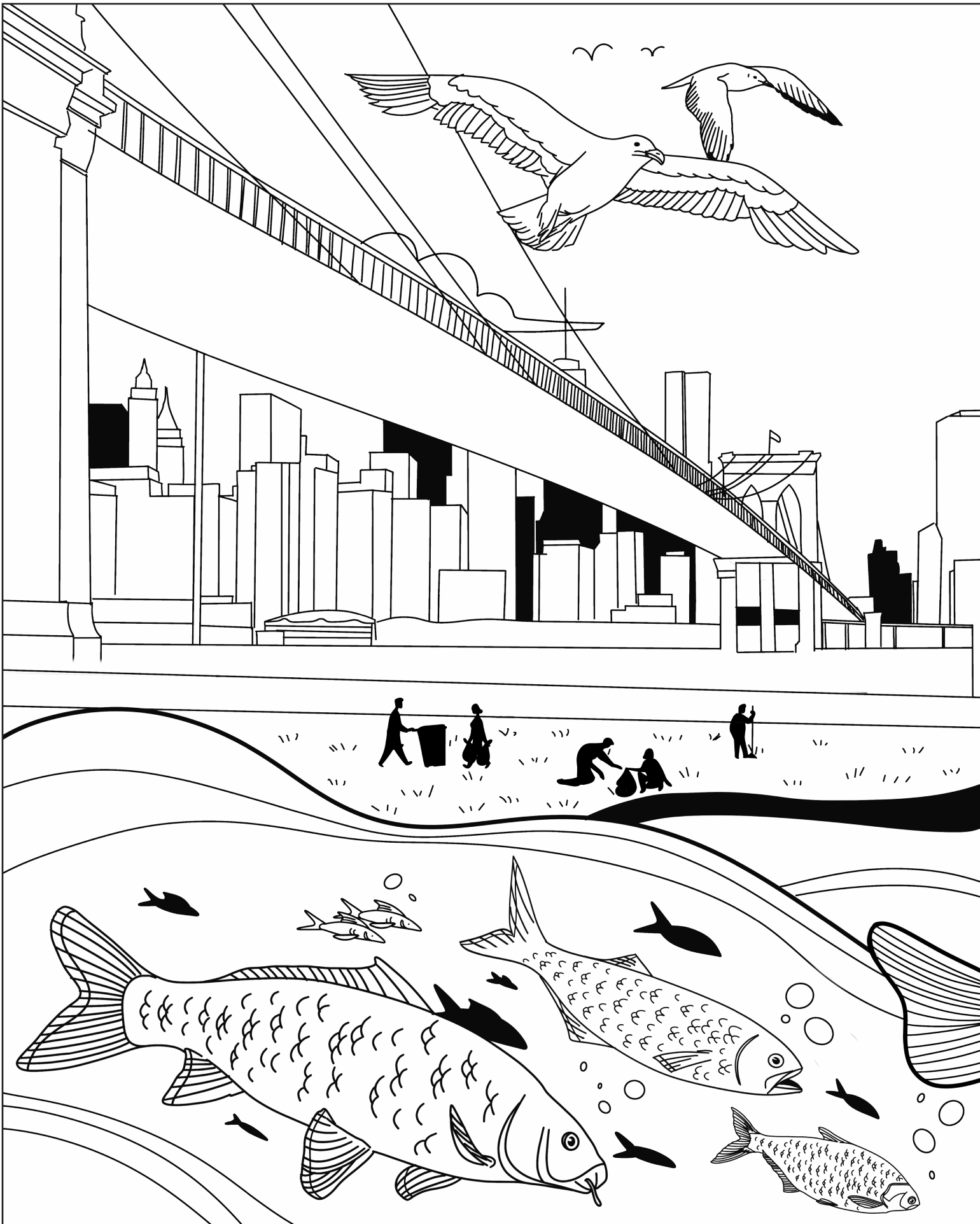


Keep our streets  
and sidewalks  
clean!

Litter can be swept into  
the sewers during storms and  
end up polluting waterways.  
Be a Harbor Protector!

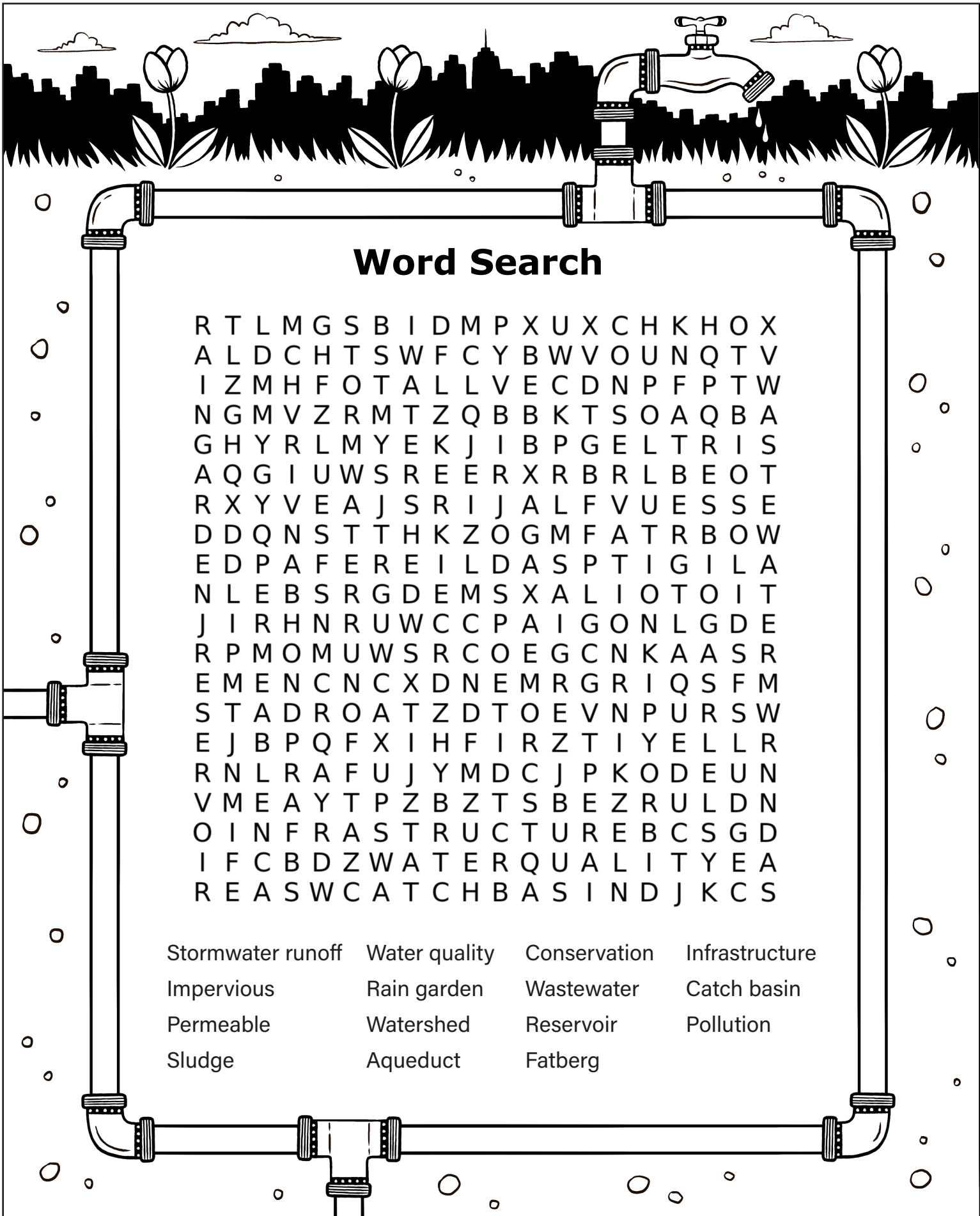
**Harbor Protectors**





# I New York Harbor!





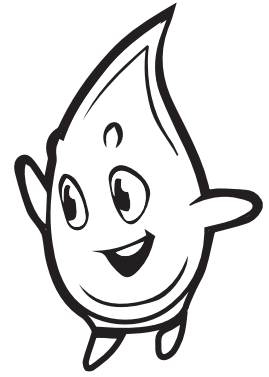
# Word Search

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

- |                   |               |              |                |
|-------------------|---------------|--------------|----------------|
| Stormwater runoff | Water quality | Conservation | Infrastructure |
| Impervious        | Rain garden   | Wastewater   | Catch basin    |
| Permeable         | Watershed     | Reservoir    | Pollution      |
| Sludge            | Aqueduct      | Fatberg      |                |

# Vocabulary











1. **Aqueduct:** a tunnel that carries water over a long distance, usually by gravity.
2. **Bacteria:** tiny organisms that can be found in our body and the environment.
3. **Catch basin:** a drain that collects stormwater runoff into the sewer system.
4. **Conserve:** to protect and save Earth's natural resources.
5. **Fatbergs:** a combination of grease, wet wipes, and other items that can clog sewer pipes.
6. **Impervious:** a surface that does not allow water to pass through or infiltrate.
7. **Infrastructure:** the systems and structures that provide important services for a city.
8. **Permeable:** a surface that absorbs water where it falls.
9. **Pollution:** harmful oils, chemicals, and trash that can dirty air, water, and land.
10. **Rain garden:** a planted area that collects stormwater runoff from streets and sidewalks.
11. **Reservoir:** a lake or basin used to store water.
12. **Sewer:** an underground pipe that carries water to a waterway or a wastewater facility.
13. **Sludge:** the solids removed from wastewater, such as food, poop, and paper.
14. **Stormwater runoff:** water from precipitation that flows over streets, sidewalks, and other impervious surfaces.
15. **Wastewater:** used water mixed with solid waste that flows down the drains from homes, schools, and businesses.
16. **Wastewater Resource Recovery Facility:** a facility that cleans wastewater and stormwater runoff, and turns waste into resources.
17. **Water quality:** a measure of a waterway's health and ability to support plants and animals.
18. **Watershed:** an area of land that drains and collects water in rivers, lakes, streams, and underground.



# Let's Take Action!

How can you be a friend to Drippy? There are many ways we can protect our water resources and the environment. Follow the checklist below to help create a cleaner and greener NYC!

Check off any actions you already take. Underline any new actions you plan to take in the future.

-  Conserve water! Turn off the faucet while brushing your teeth and take shorter showers.
-  WAIT to use water during rainstorms to help protect waterways from sewer overflows.
-  After cooking, make sure leftover grease or oil is thrown in the trash and not poured down the drain.
-  Only flush the 4 Ps down the drain – pee, poop, puke, and toilet paper.
-  Use reusable items, like a water bottle and bag, to make less plastic pollution.
-  Recycle and throw out trash properly to keep streets and sidewalks clean.
-  Compost your food scraps. Leftover food can be turned into renewable resources like soil and energy!
-  Plant and care for trees, plants, and gardens in your community.
-  Collect rainwater to use for washing your car and watering your plants.
-  Share what you learn with a family member or friend!

How else can you help? Write down your ideas for other actions you can take.

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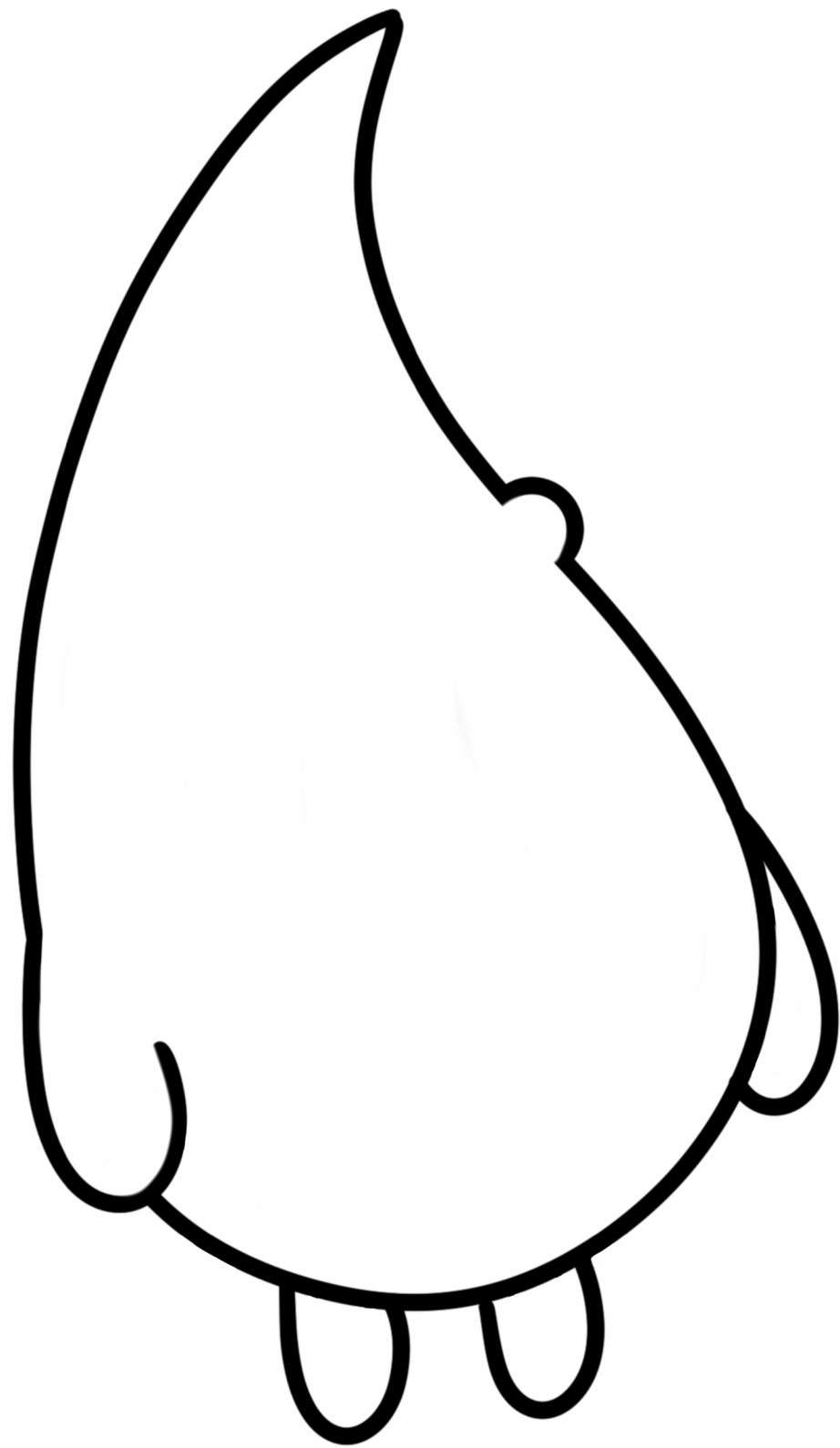
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Why is it important to protect water and the environment?

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**Draw your own Drippy**









This coloring book was developed in partnership by the Fashion Institute of Technology (FIT) and the NYC Department of Environmental Protection through the NYC Department of Design and Construction's Town+Gown program.

**Student Illustrators from FIT's Illustration BFA Program:**

Oscar Yohe Tapia  
Melanie Wong  
Julianna Lee-Cassara  
Anna Voss

**Student Art Directors from FIT's Illustration MFA Program:**

Christina Lee  
Alessandro Echevarria

**FIT Faculty Contributors:**

Dan Shefelman, Chair, Illustration and Interactive Media  
Brendan Leach, Chair, MFA in Illustration

Illustration BFA program at FIT is a rigorous four-year undergraduate program rooted in the fundamentals of drawing, painting, conceptual thinking, and creative curiosity. Students go on to work as editorial and book illustrators, animation artists, art directors, and designers, just to name a few. The Illustration MFA program is for working professionals with several years of experience in the field of illustration and visual storytelling. Students elevate their skills, entrepreneurial spirit, and visual voice culminating in a cohesive body of work and written thesis.

The NYC Department of Environmental Protection (DEP) manages New York City's water supply, providing one billion gallons of drinking water each day to nearly 10 million residents. The water is delivered from a watershed that extends more than 125 miles from the city, including 19 reservoirs and three lakes. Approximately 7,000 miles of water mains, tunnels, and aqueducts bring water to homes and businesses throughout the five boroughs, and 7,500 miles of sewer pipes and 96 pump stations take wastewater to the City's 14 wastewater resource recovery facilities. DEP also protects the health and safety of New Yorkers by reducing air, noise, and hazardous waste pollution.

Learn more at [www.nyc.gov/dep](http://www.nyc.gov/dep) or email us at [educationoffice@dep.nyc.gov](mailto:educationoffice@dep.nyc.gov).

