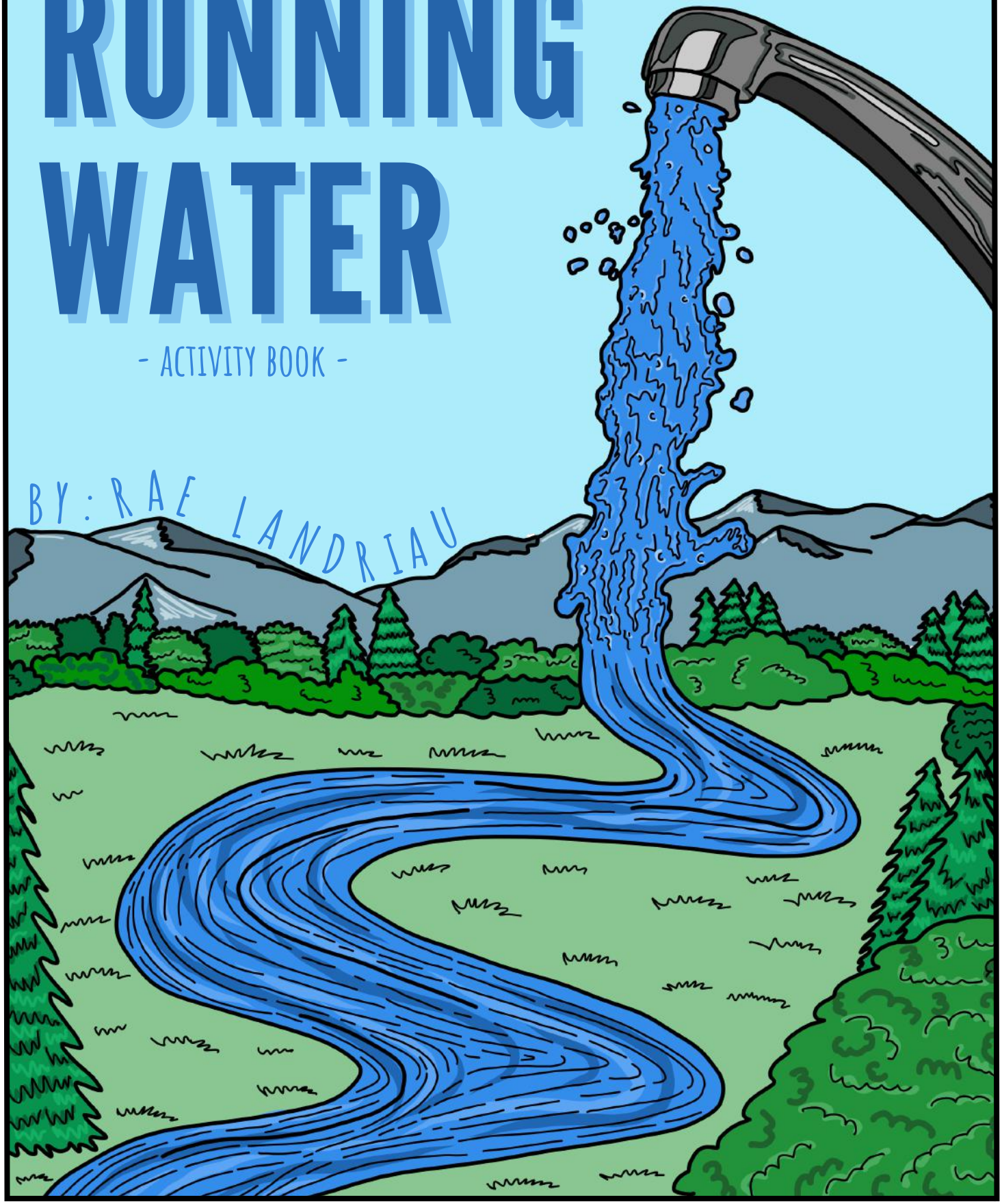
RUNNING WATER

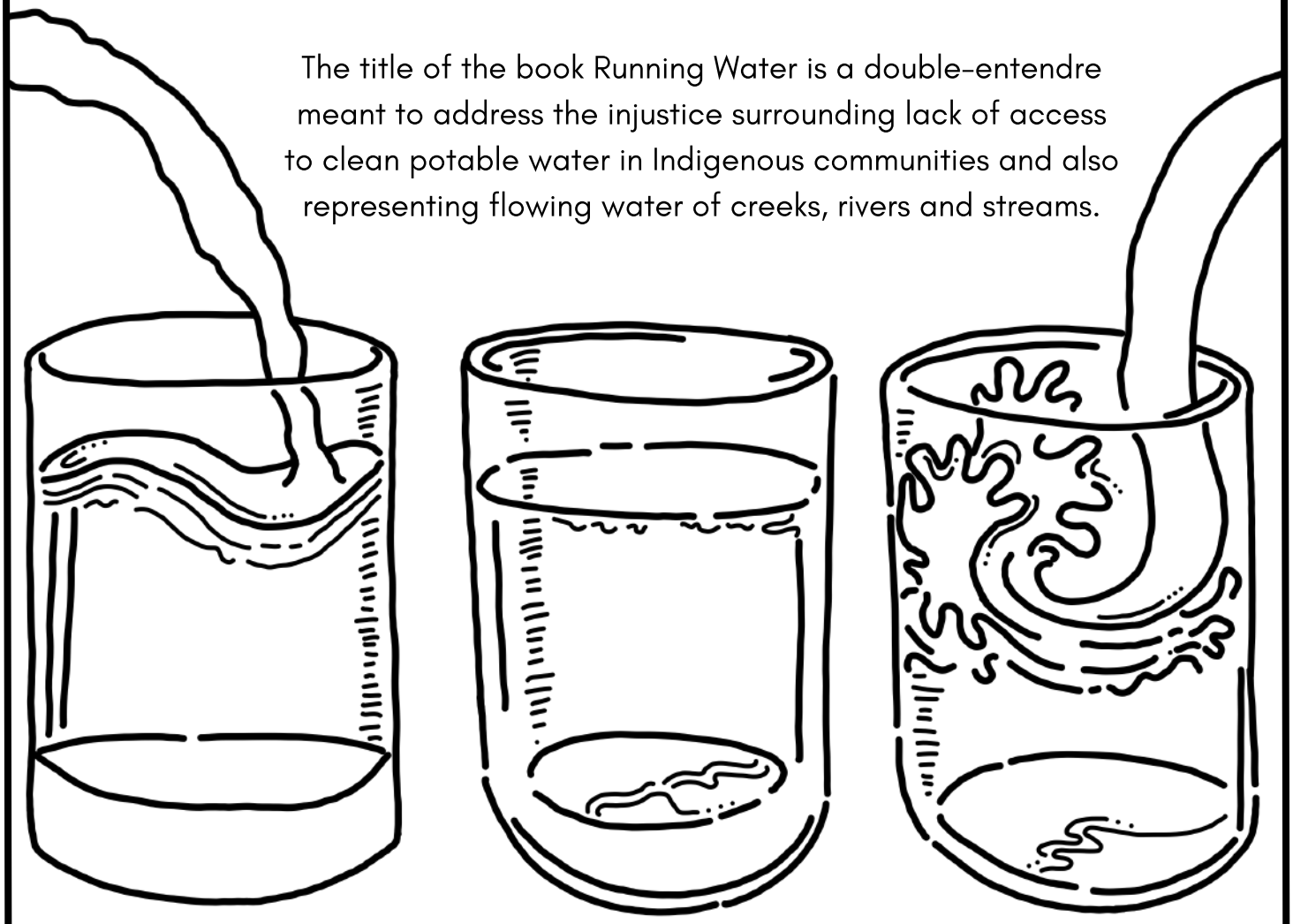
- ACTIVITY BOOK -

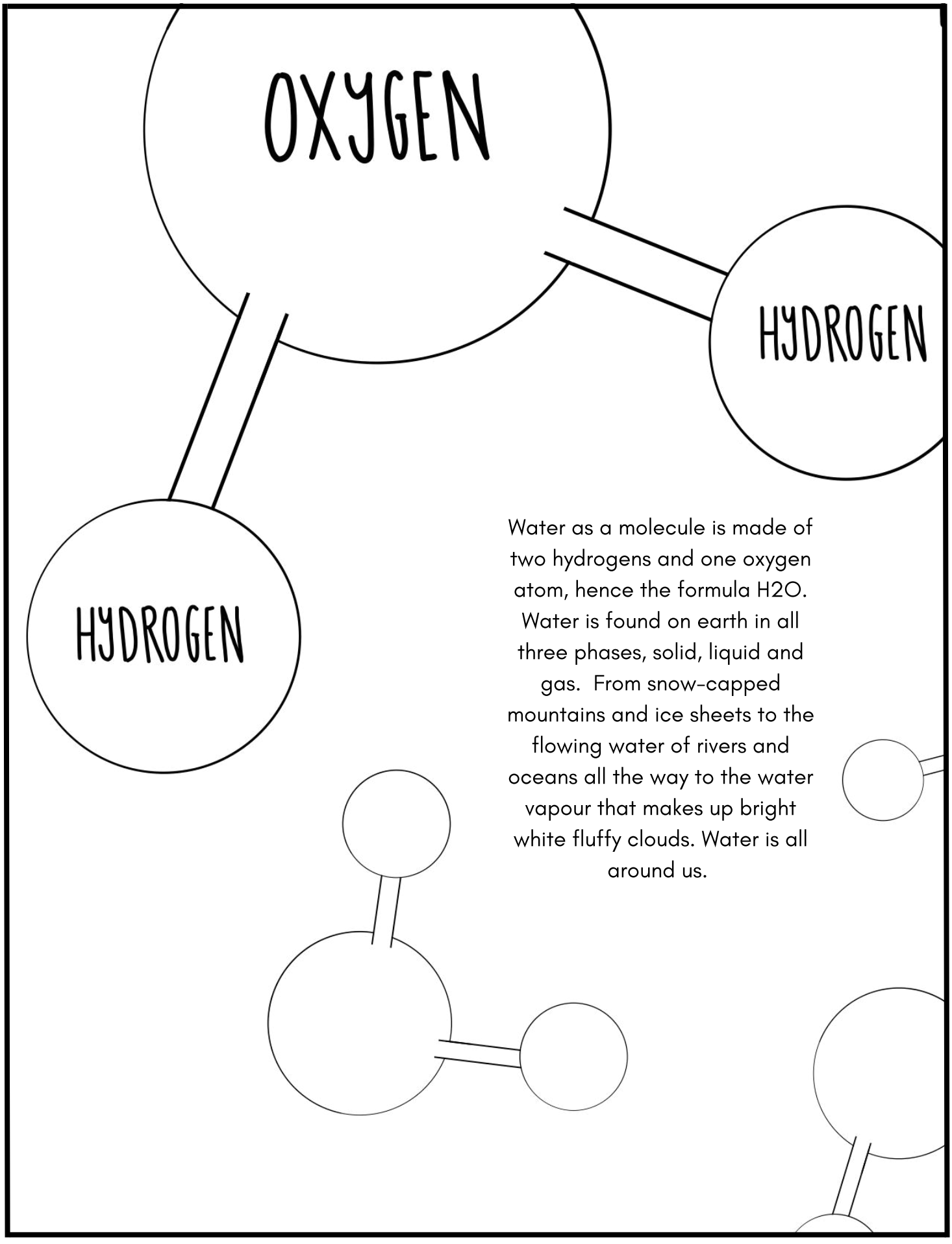
BY: RAE LANDRIAU



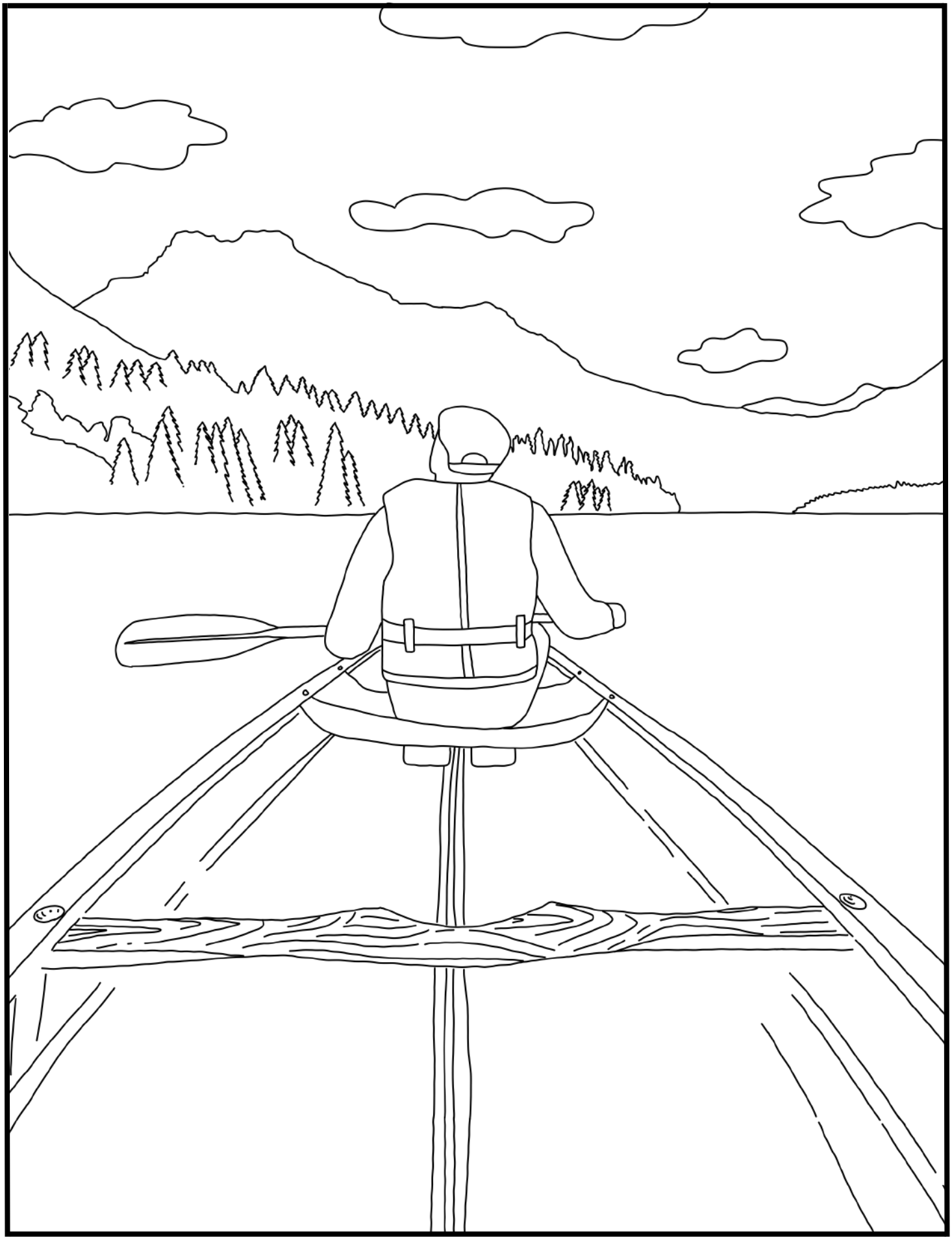
Running water is a book made in partnership with the Ocean Bridge program from Ocean Wise. This activity book was inspired by the remote learning journey of the St. Laurent Cohort in Tadoussac Quebec taking place on the traditional territory of the Innu peoples of Essipit and Mashteuiatsh. The book itself was developed in Ottawa Ontario which is built on unceded Algonquin Anishinaabe territory. As settlers it is important to recognize that we operate on stolen land that was taken through violent acts. As we organize around anti-racism and decolonization, we recognize the ways in which our presence on this land upholds colonialism and reproduces dispossession and violence for Indigenous people. We commit to working and learning more about how we can prioritize upholding conditions of the treaties that govern this land. Through our actions we hope to honour the peoples of the Algonquin Anishinaabe Nation, and all Indigenous communities across Turtle Island, who are the traditional guardians of this land, past, present, and future.

The title of the book Running Water is a double-entendre meant to address the injustice surrounding lack of access to clean potable water in Indigenous communities and also representing flowing water of creeks, rivers and streams.

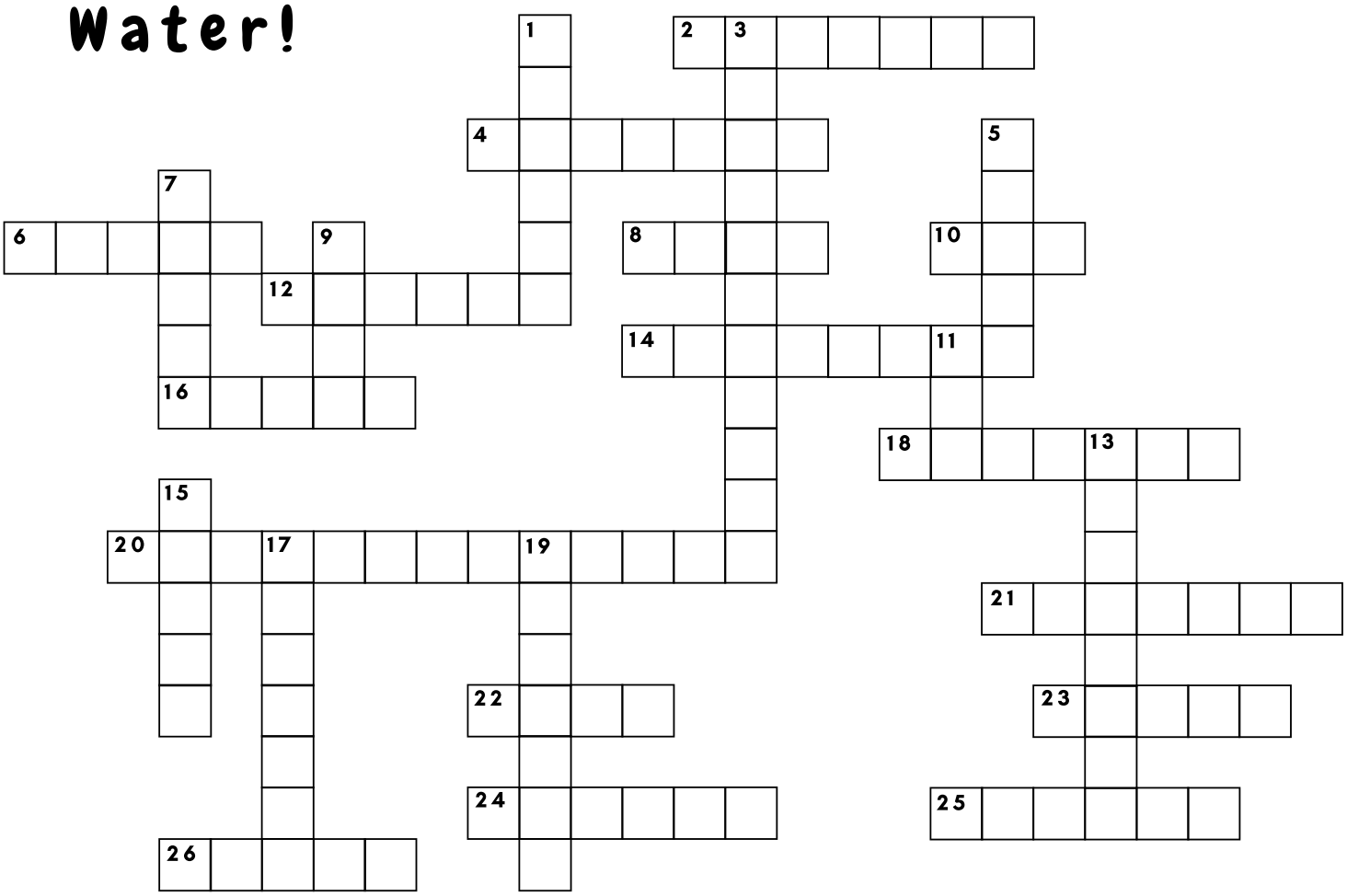




Water as a molecule is made of two hydrogens and one oxygen atom, hence the formula H2O. Water is found on earth in all three phases, solid, liquid and gas. From snow-capped mountains and ice sheets to the flowing water of rivers and oceans all the way to the water vapour that makes up bright white fluffy clouds. Water is all around us.



Water!
Water!
Water!



DOWN

1. ANOTHER WORD FOR SALTY
3. WATER BECOMING CLOUDS
5. SANDY
7. H2O
9. COTTAGE WITH A ____ VIEW
11. THE BALTIC
13. NATURAL
15. TYPE OF WATER
17. ADJACENT TO WATER
19. _____ ENVIRONMENT

ACROSS

2. ICE TO WATER
4. RIVERS ARE A _____ FEATURE
6. FIVE OF THEM
8. FROZEN WATER
10. PHASE OF MATTER
12. SUB
14. KINDA SALTY, KINDA NOT
16. WATER FEATURE
18. NATIVE ENVIRONMENT
20. FALLS FROM THE SKY
21. TO KEEP SAFE
22. SPRING FALL
23. TINY RIVER
24. PHASE OF WATER
25. TRIBUTARY
26. ICE PHASE

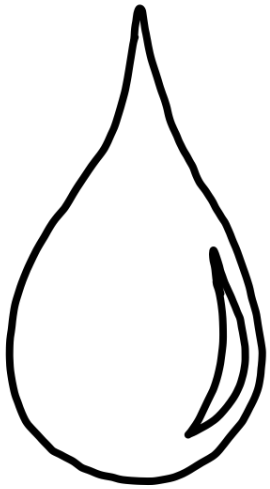
All about water

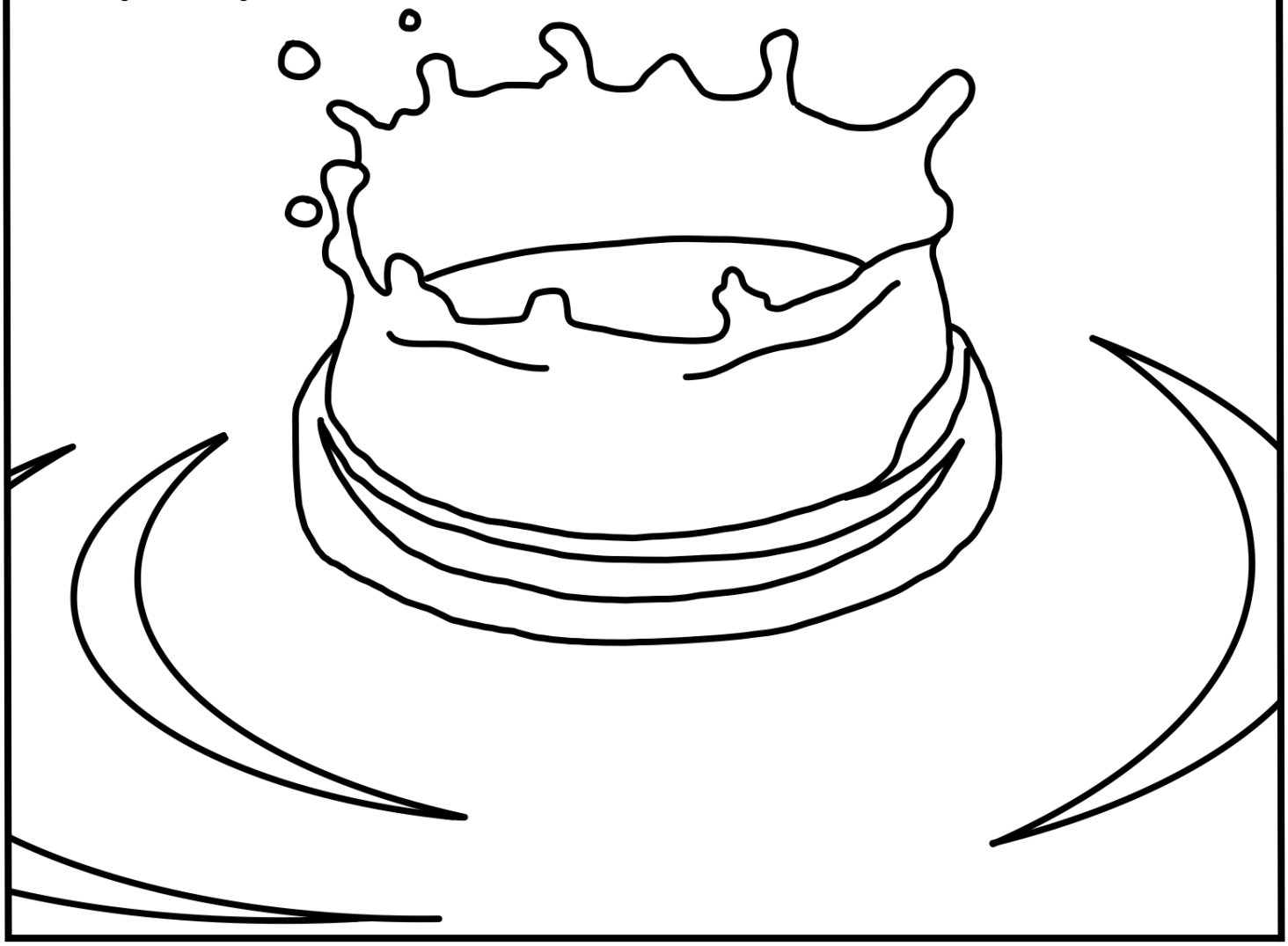
L O O P E D I T K C F H I Q
Y A B H A R B O R I C T S F
K M N C I O C E T R R R J Y
Y S E D T S T R E I C A L G
Q E R E B A C M V V S E T U
X A E D W E S E V A W M N L
N F H A M A R I T I M E L F
O L P B O D Y O F W A T E R
O O S A F V T S H J Z R V Z
G O O L D E B A E S X E E Y
A R R Y C J T E L N I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

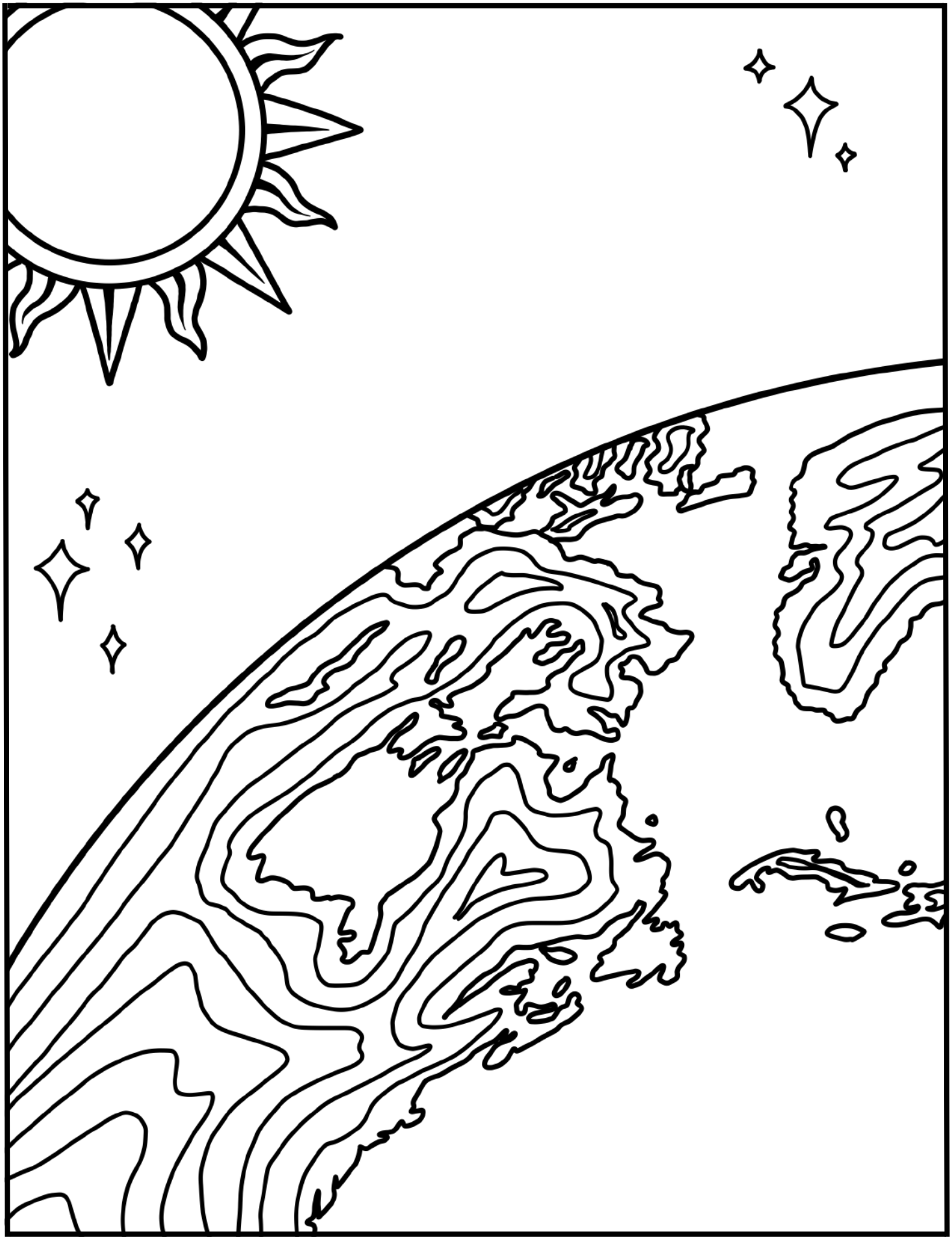
WORDS TO FIND

AIR
ATMOSPHERE
BAY
BEACH
BODY OF WATER
CYCLONE
EARTH
FJORD
GLACIER
GULF
HARBOR
HYDROSPHERE
INLET
LAGOON
LAND
MARATIME
SEABED
SEAFLOOR
SHORE
TIDEPOOL
TRENCH
WATER
WAVES

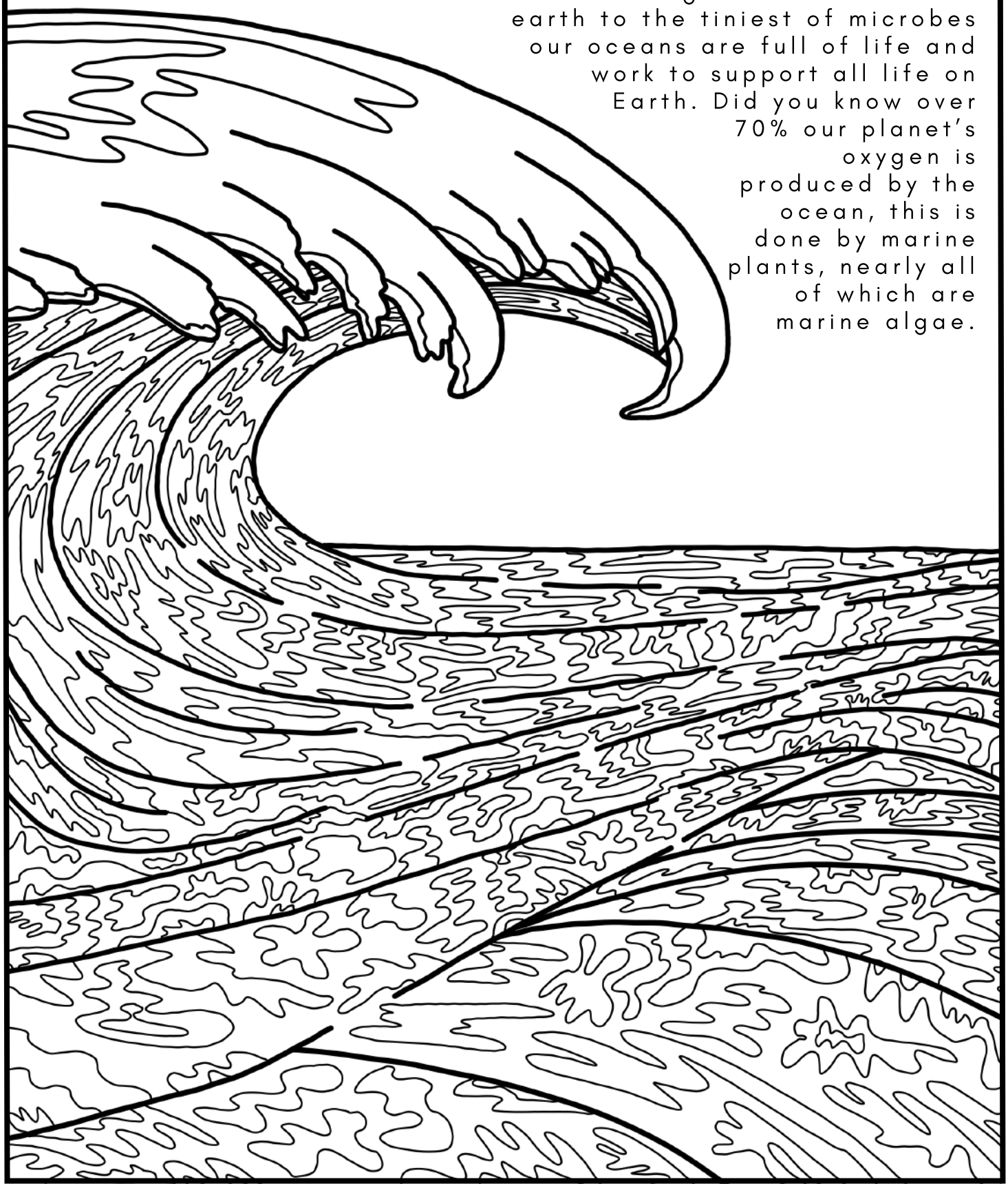
Without water nothing would exist. Water is essential for all living things, from the smallest shrubs to the largest of trees, from insects to elephants and humans. We all need water to survive. Although there is water all around us only 3% of it is freshwater which is the form, we can consume. This is why conservation and protection of water is critical to ensure the safety and well being of our planet and all living beings.







Our oceans cover more than 70% of the earth's surface, making most of the earth aquatic. However much of the oceans remain unexplored, with only 3% of the oceans having been explored. From the largest animals on this earth to the tiniest of microbes our oceans are full of life and work to support all life on Earth. Did you know over 70% our planet's oxygen is produced by the ocean, this is done by marine plants, nearly all of which are marine algae.

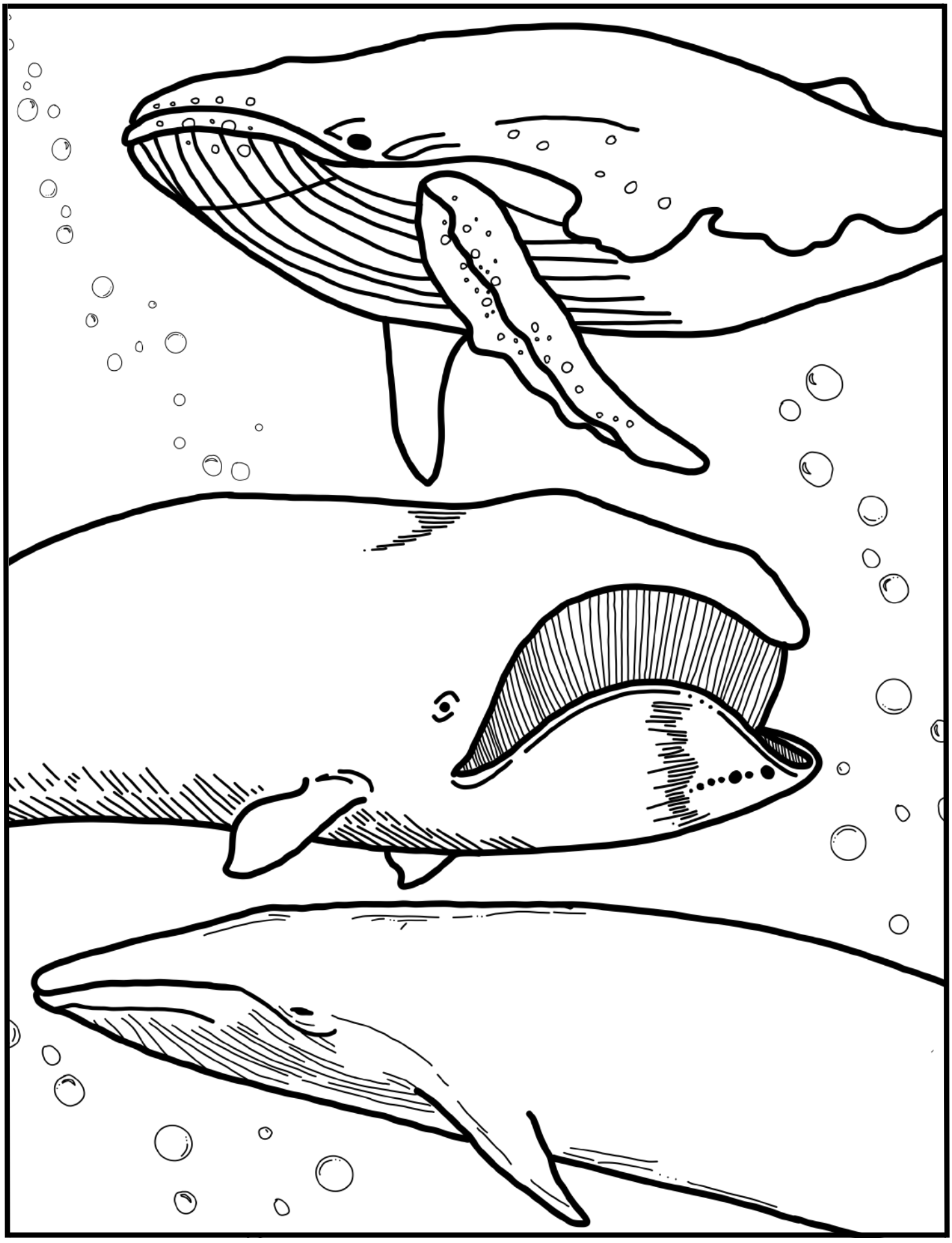


Water bodies

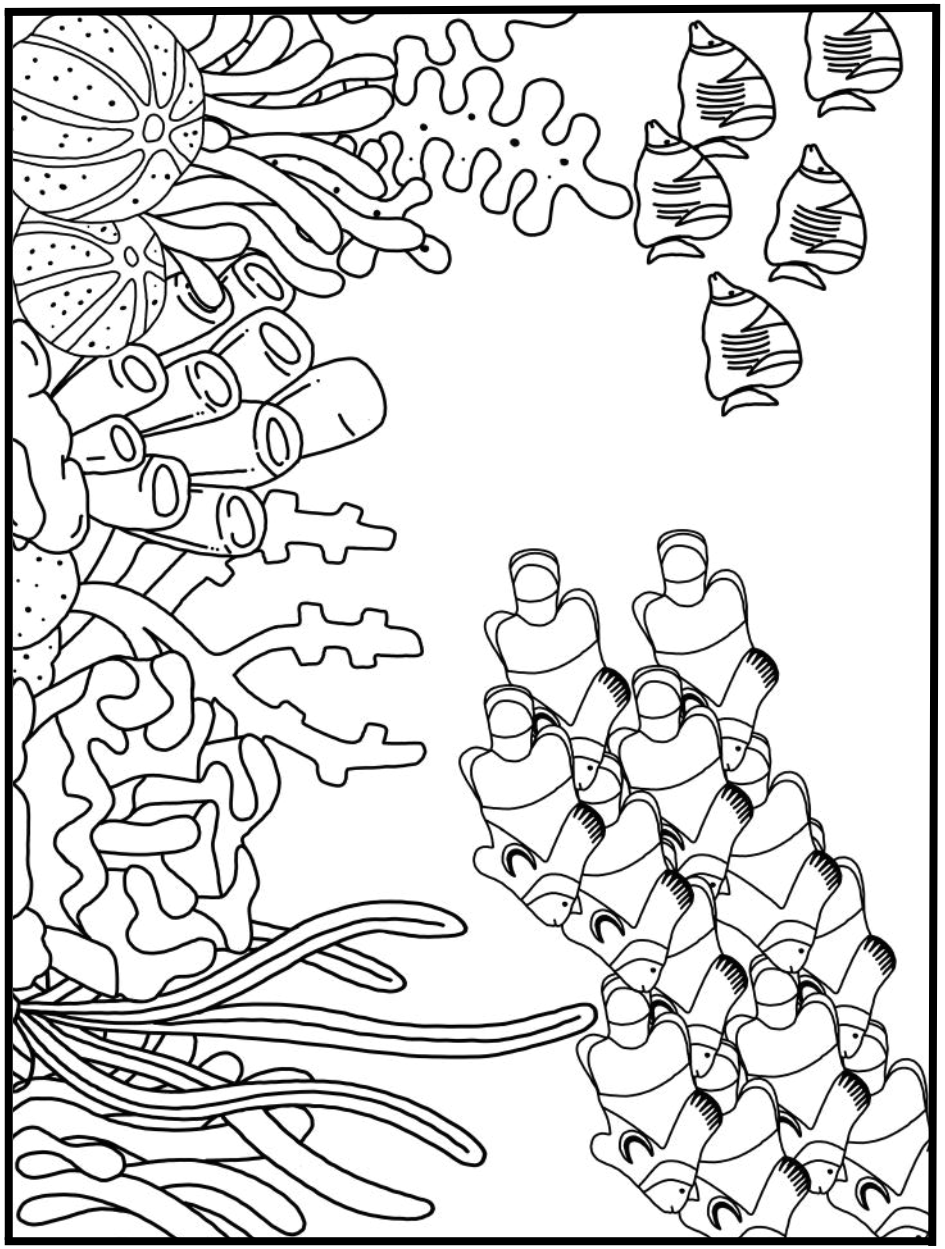
B A E S C I T A I R D A T B
A R E I D N A L T E W R D E
Y E K D N O P I R E P A C A
O V A A E S C I T L A B A U
F I L E D C B S S A A I P F
B R R S T S E W T K R A Y O
E N A A A L A L O D E N M R
N O E V W M E R M R T S A T
G K B A P D S C Y E A E E S
A U T J E E K A L N W A L E
L Y A S A O C R E E K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

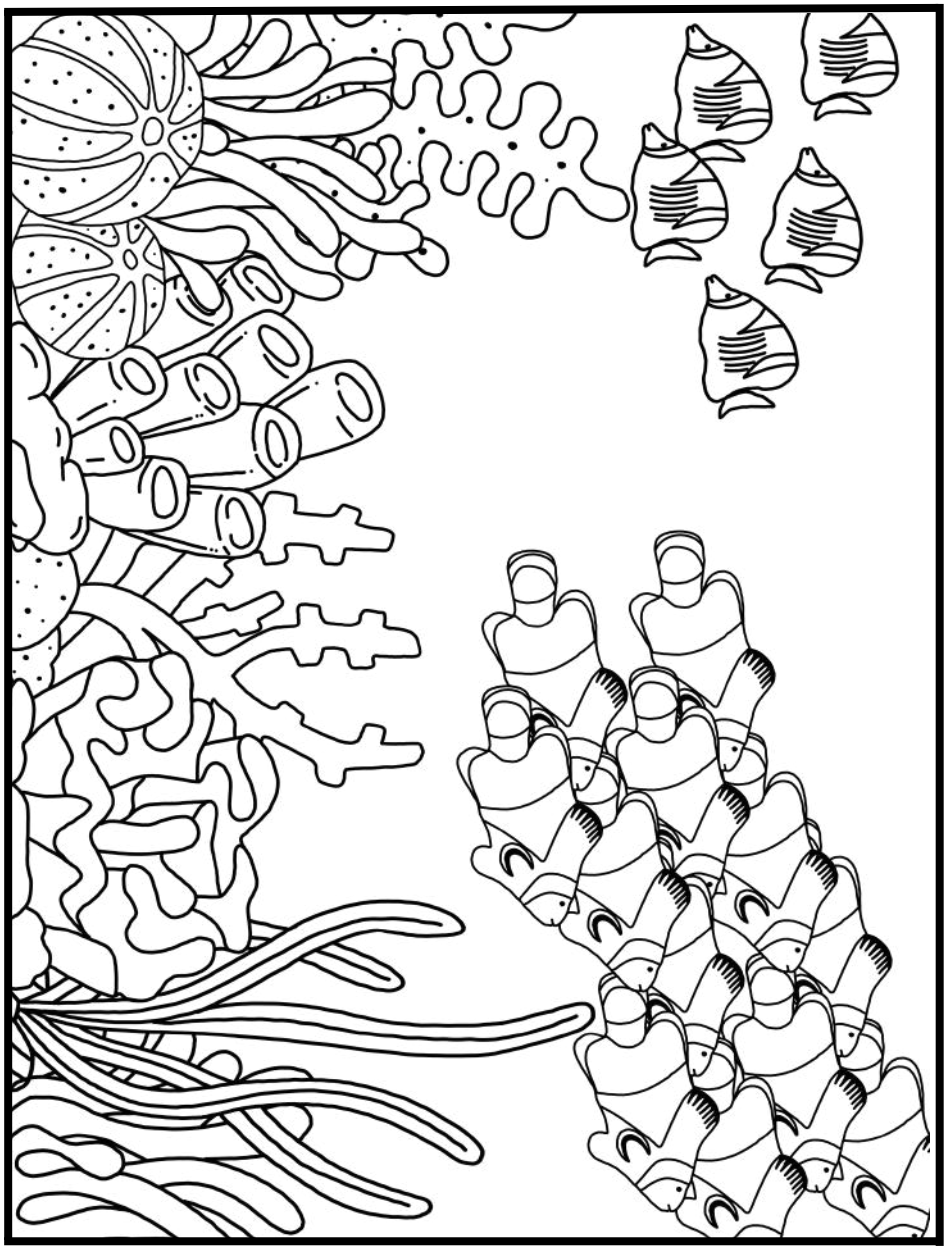
WORDS TO FIND

ADRIATIC SEA
ARABIAN SEA
BAKOR SEA
BALTIC SEA
BAY
BAY OF BENGAL
BEAUFORT SEA
BLACK SEA
BOG
CAPE RIP
CREEK
DELTA
DENT RAPIDS
GREAT BEAR LAKE
HUDSONS BAY
JAVA SEA
LAC LEAMY
LAKE
OCEAN
POND
SEA
SWAMP
WATER
WETLAND
YUKON RIVER

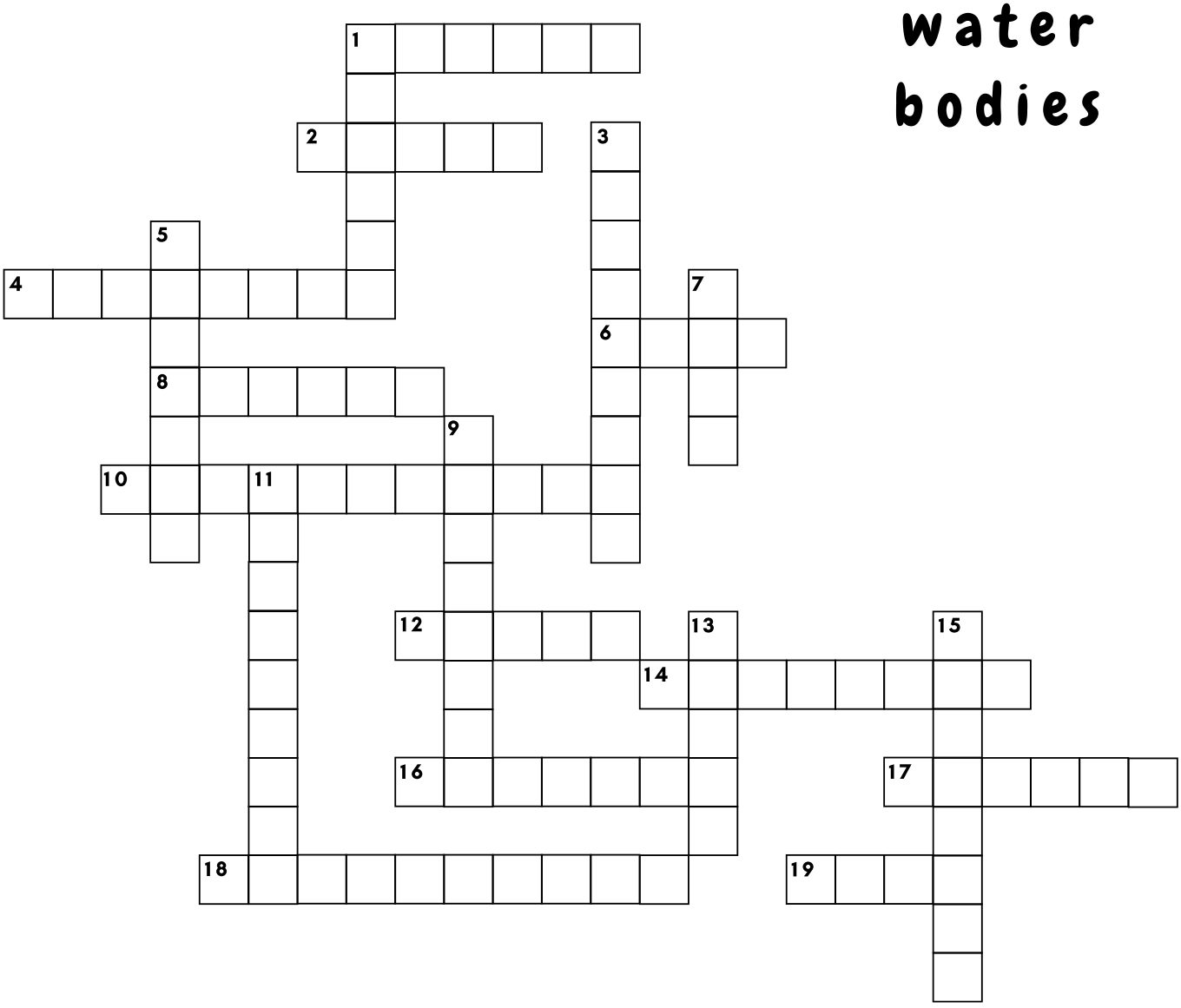


SPOT THE 10 DIFFERENCES





Major water bodies

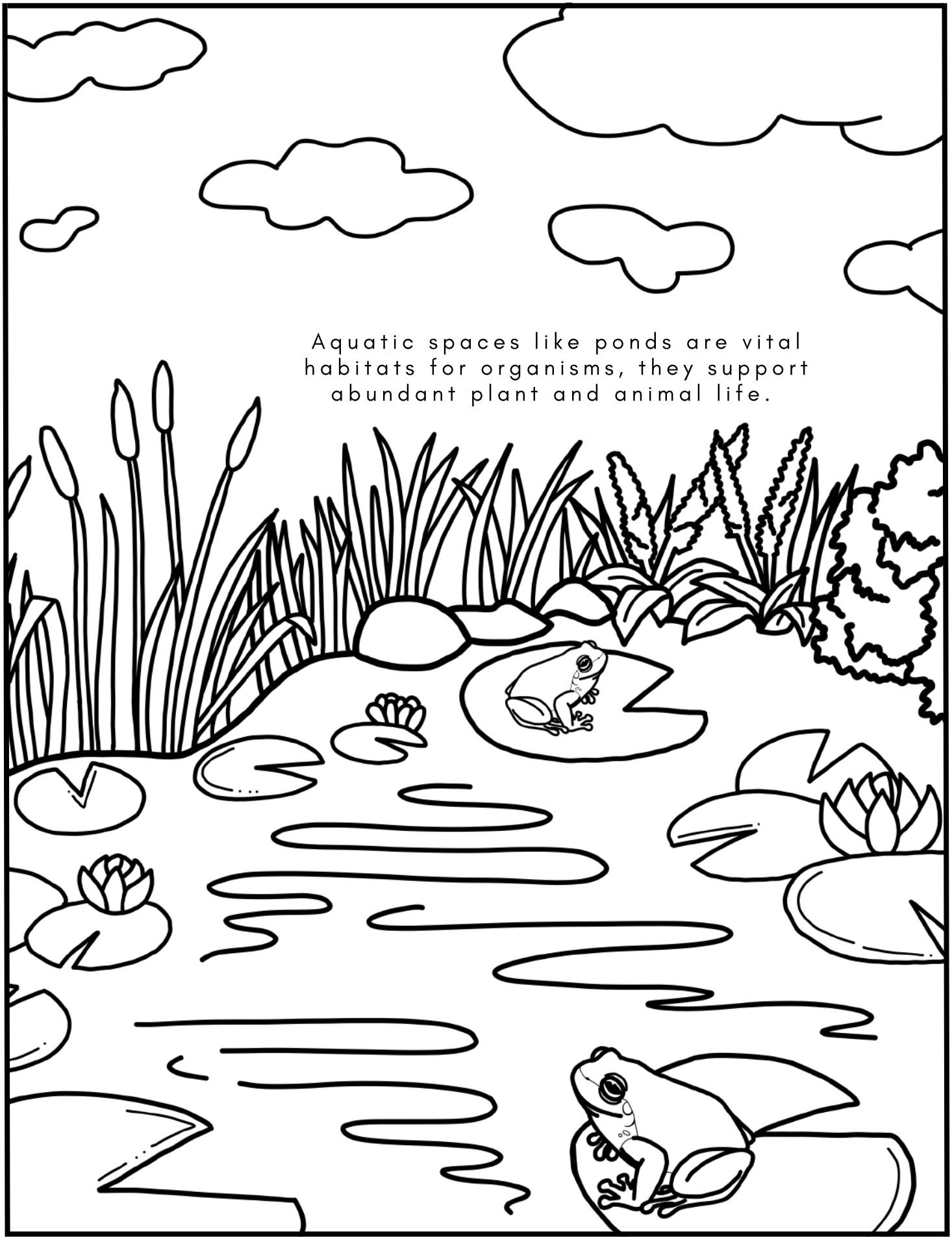


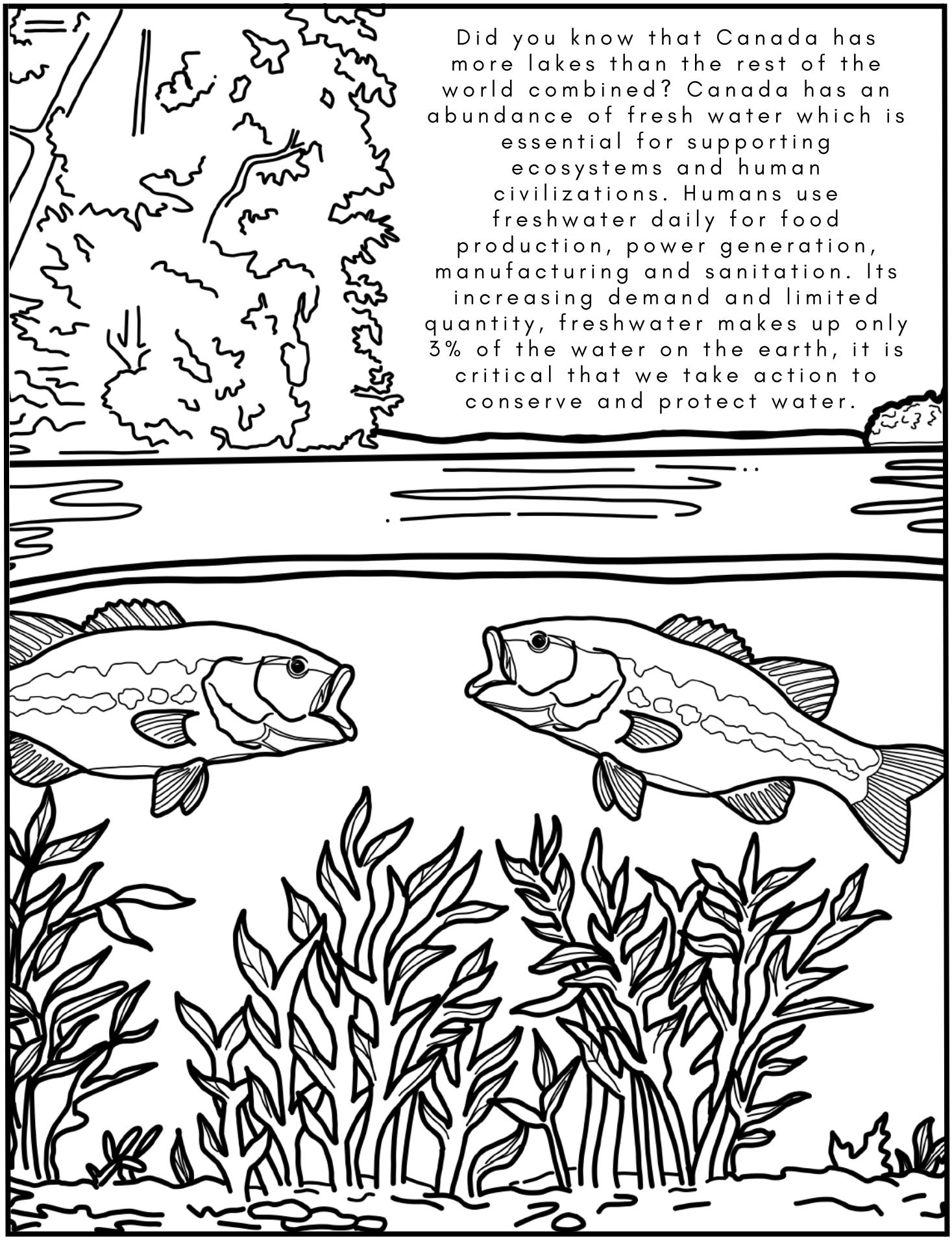
DOWN

1. NORTH POLE
3. LARGE NORTHERN RIVER
5. WEST COAST OCEAN
7. LONGEST RIVER IN AFRICA
9. GREAT LAKE
11. SEAWATER IS
13. GREAT LAKE
15. ANTARCTIC OCEAN

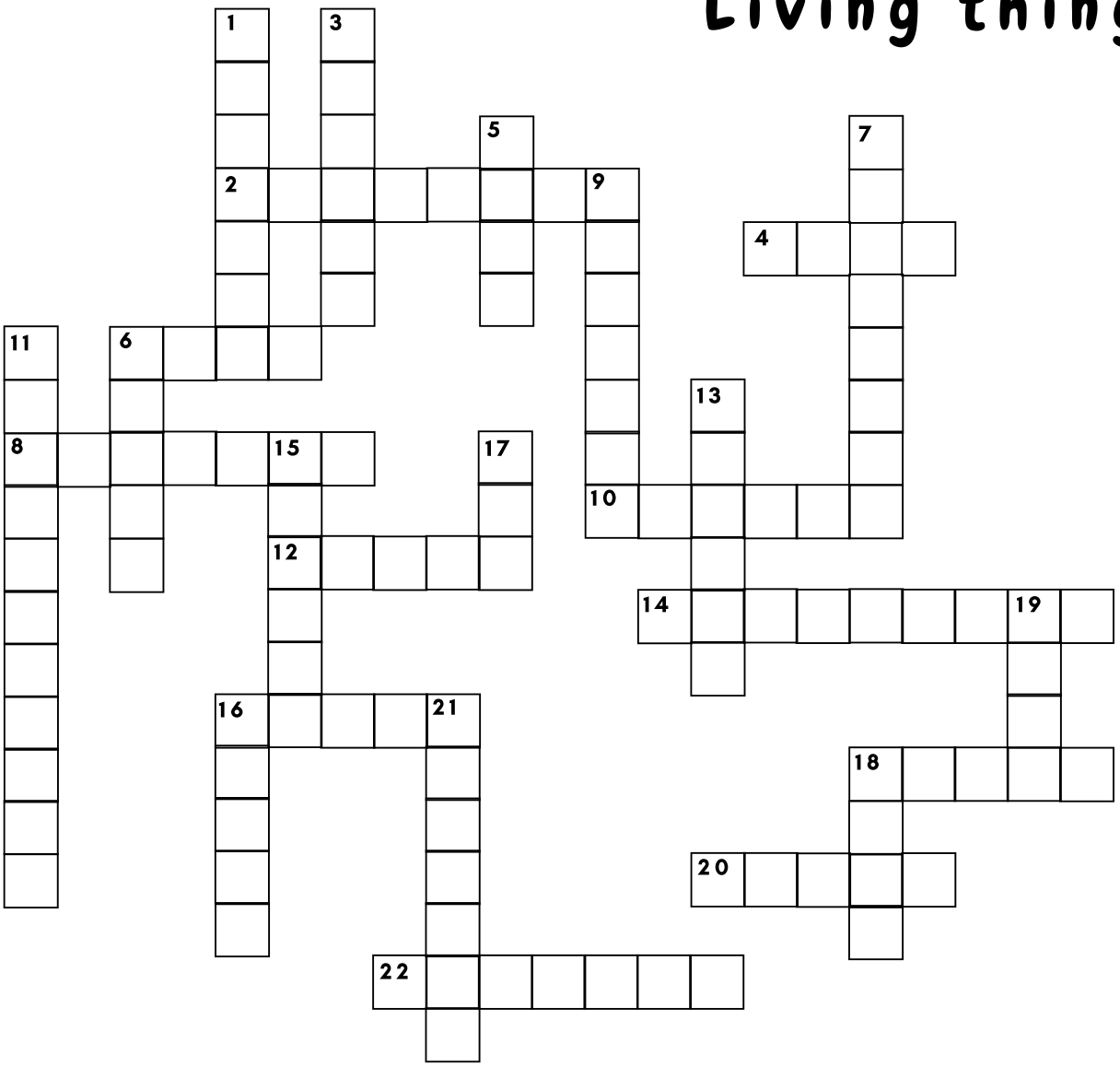
ACROSS

1. SOUTH AMERICAN RIVER
2. LARGE BODY OF WATER
4. EAST COAST OCEAN
6. GREAT LAKE
8. BETWEEN OCEANIA AND AFRICA
10. NORTH AMERICAN RIVER
12. MOVING BODY OF WATER
14. GREAT LAKE
16. GREAT LAKE
17. SMALL RIVER
18. POTABLE WATER
19. STAGNANT WATER


Aquatic spaces like ponds are vital habitats for organisms, they support abundant plant and animal life.


Did you know that Canada has more lakes than the rest of the world combined? Canada has an abundance of fresh water which is essential for supporting ecosystems and human civilizations. Humans use freshwater daily for food production, power generation, manufacturing and sanitation. Its increasing demand and limited quantity, freshwater makes up only 3% of the water on the earth, it is critical that we take action to conserve and protect water.

Living things



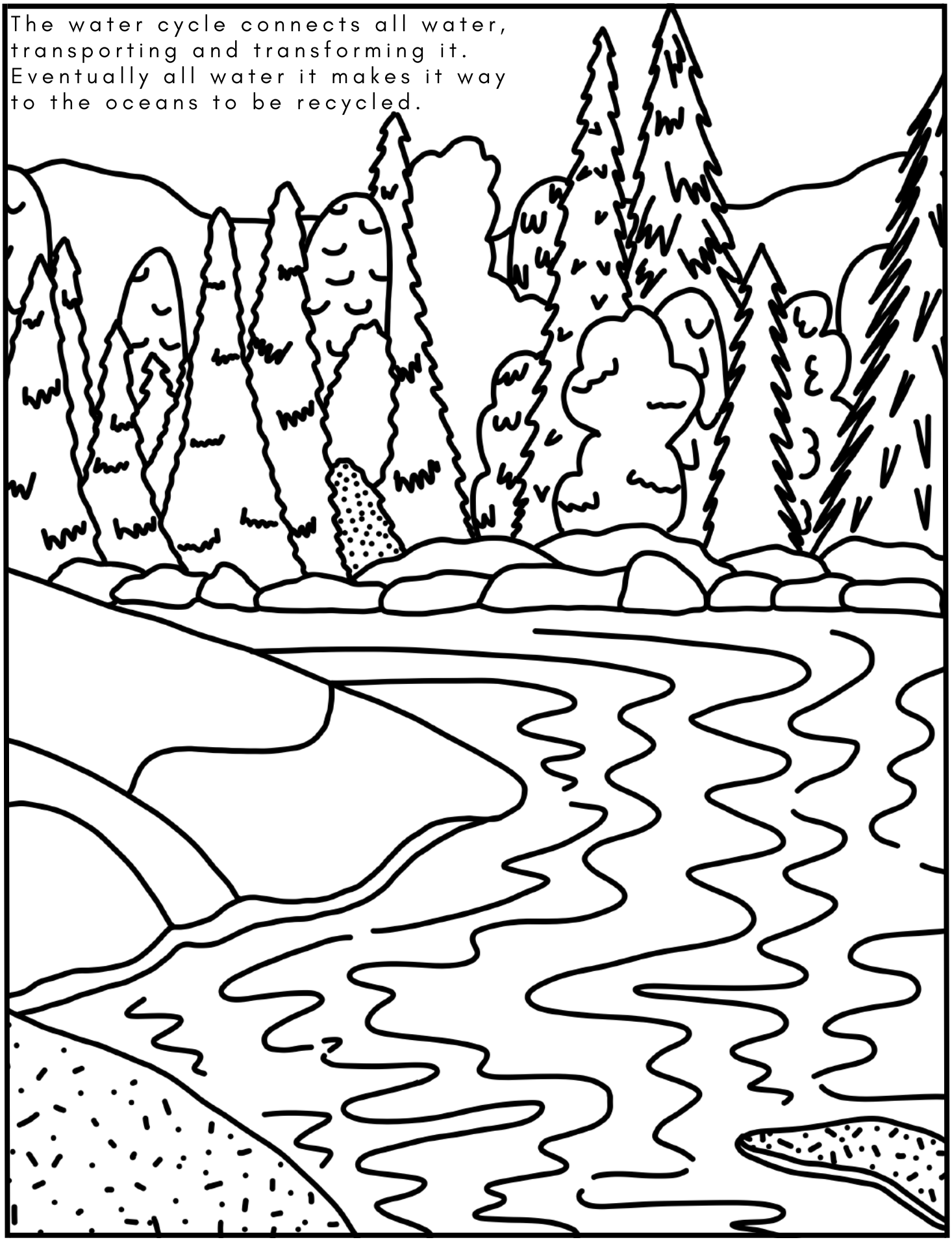
DOWN

1. MARINE ENVIRONMENT
3. CANARY OF THE SEA
5. AQUATIC VERTEBRATE
6. HOLDS HANDS WHEN ASLEEP
7. FAMOUS ECHINODERMS
9. WARM BLOODED ANIMALS
11. SMALL FLOATING ORGANISM
13. EX. HUMPBACKS
15. SPINEY SPHERE
16. INK
17. ELECTRIC
18. EXTREMELY LARGE BROWN ALGAE
19. MOTHER OF PUPS
21. DELICIOUS CRUSTACEAN

ACROSS

2. WATER ZOO
4. SEBASTIAN
6. LARGEST DOLPHIN
8. TENTICLES
10. NURSE, BLACKTIP, BULL ETC.
12. REEF
14. CAN STING YOU
16. SLOW
18. GIANT BLUE WHALE FOOD
20. HARD HOME
22. SUSHI WRAPPER

The water cycle connects all water, transporting and transforming it. Eventually all water it makes it way to the oceans to be recycled.

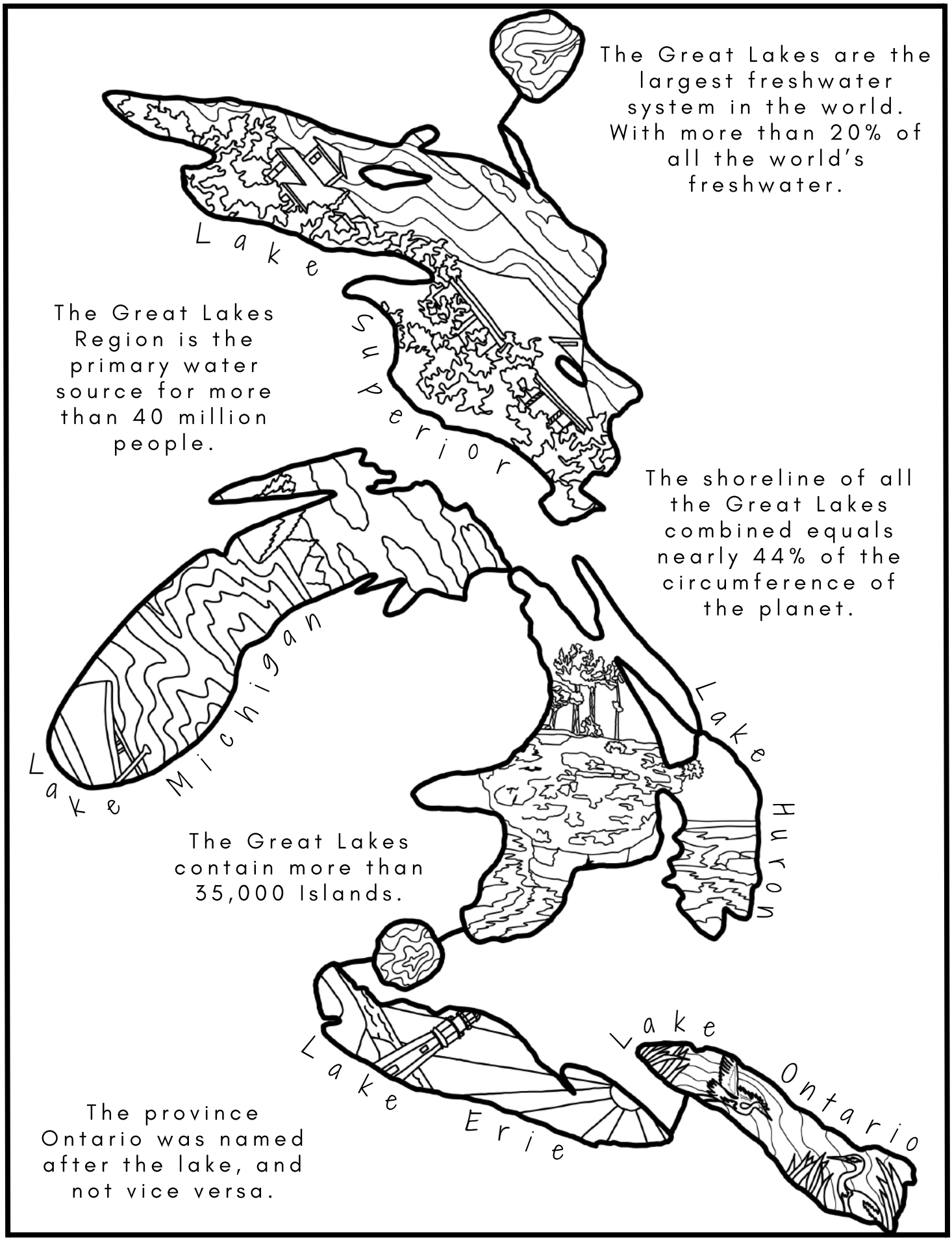


Life underwater

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

WORDS TO FIND

ANEMONE
ANCHOVY
COD
BALEEN WHALE
BARRACUDA
BARNACLE
BLUE WHALE
CHINOOK SALMON
CLAM
CRAB
CONCH
EEL
FIN
WHALE
FLATFISH
FUGU
GEOLUCK
KINGFISH
KRILL
LING
MARLIN
ORCA
OTTER
RAY
SQUID
TUNA


The Great Lakes are the largest freshwater system in the world. With more than 20% of all the world's freshwater.
Lake Superior
The Great Lakes Region is the primary water source for more than 40 million people.
The shoreline of all the Great Lakes combined equals nearly 44% of the circumference of the planet.
Lake Michigan
Lake Huron
The Great Lakes contain more than 35,000 Islands.
Lake Erie
Lake Ontario
The province Ontario was named after the lake, and not vice versa.

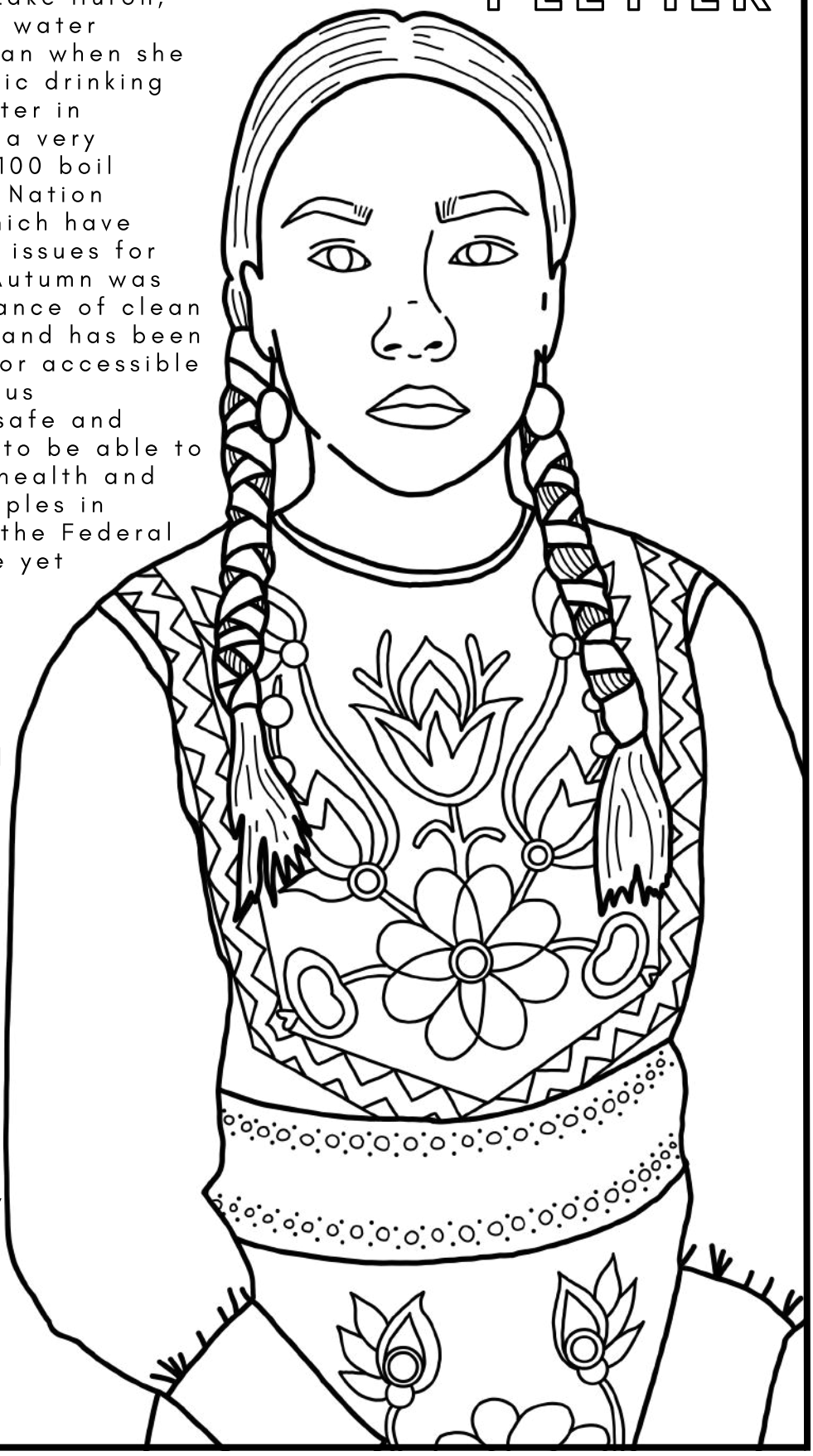
ELDER JOSEPHINE MANDAMIN

Ojibwe grandmother Josephine Mandamin, Wikwemikong First Nation, was an Indigenous water Warrior who founded Mother Earth Water Walk in efforts to bring attention to a lack of clean water access in Indigenous communities. Her work also focused on conservation and protection of water resources.
She brought to light concerns about pollution, laws, fracking and the selling of the water. Her legacy is continued on by many, including her great niece, Autumn Peltier.

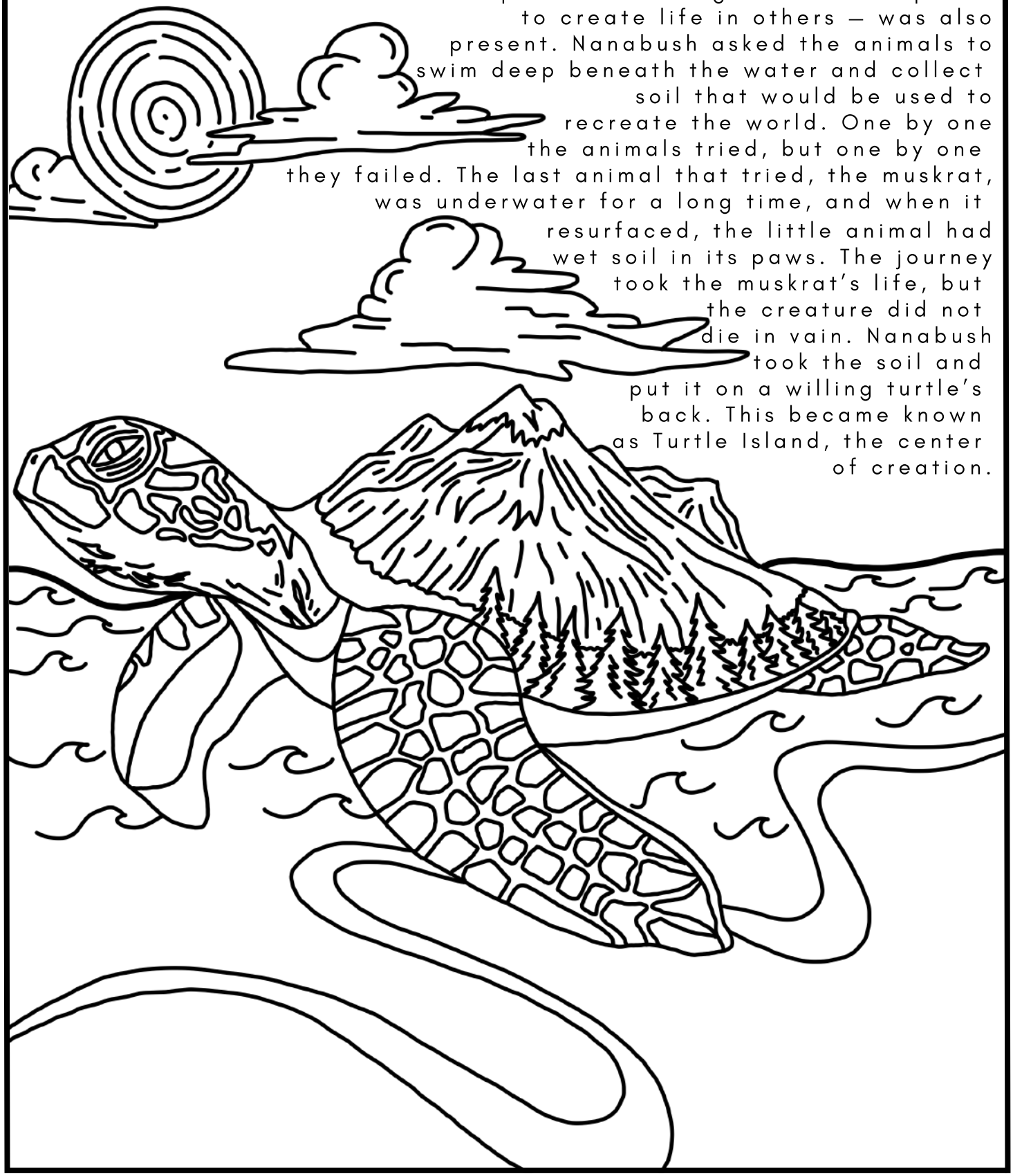
"We've all known for a long time that water is alive. Water can hear you. Water can sense what you are saying and what you are feeling… Like anything. Like a person who is sick… if you give them love, take care of them, they'll come alive. They'll feel better. It's the same with our mother, the earth, and the water. Give it love".

AUTUMN PELTIER

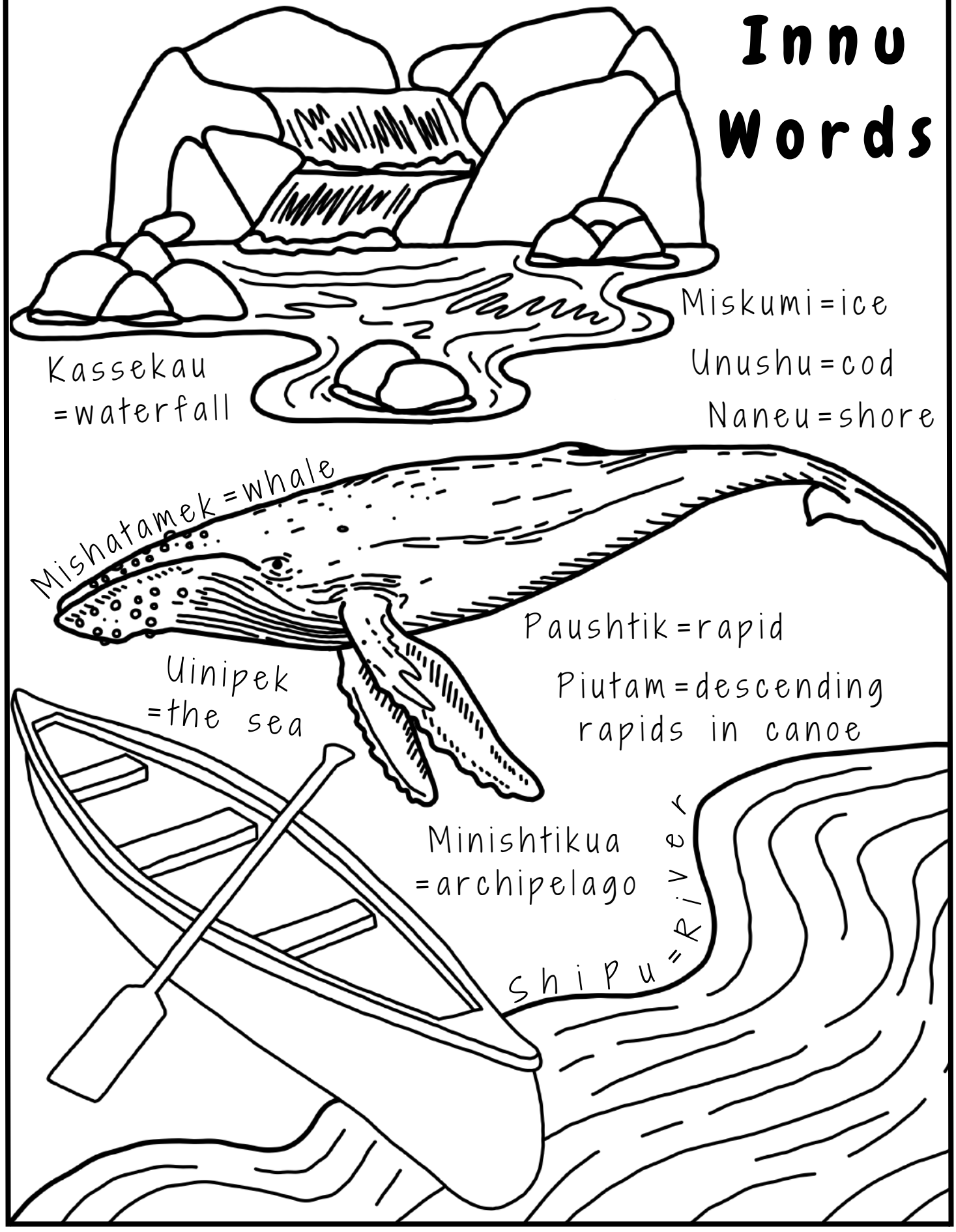
She is an Anishinaabe water-rights advocate and the Anishinabek Nation Chief Water Commissioner. Born and raised on the shores of Lake Huron, the world's largest fresh water supply. Her activism began when she saw signs warning of toxic drinking water. Contaminated water in Canada is unfortunately a very common issue with over 100 boil water advisories in First Nation communities. Many of which have been experiencing these issues for the past four decades. Autumn was taught about the importance of clean water from a young age and has been continually advocating for accessible clean water for Indigenous communities. Access to safe and clean water is essential to be able to live a healthy life. The health and safety of Indigenous peoples in Canada is neglected by the Federal Government as they have yet to act on any of these boil water advisories. Lack of action to provide these communities with this essential life-giving resource has detrimental impacts. Effects which are ever amplified with the current COVID-19 pandemic. "We're in a pandemic and we're told that we need to wash our hands and sanitize, but some communities don't have access to those simple things. How is a community that has no clean running water supposed to wash their hands every day? How are they supposed to do simple sanitizing?" Through her activism Autumn has been bringing global attention to water issues for her incredible work she has received numerous recognitions.



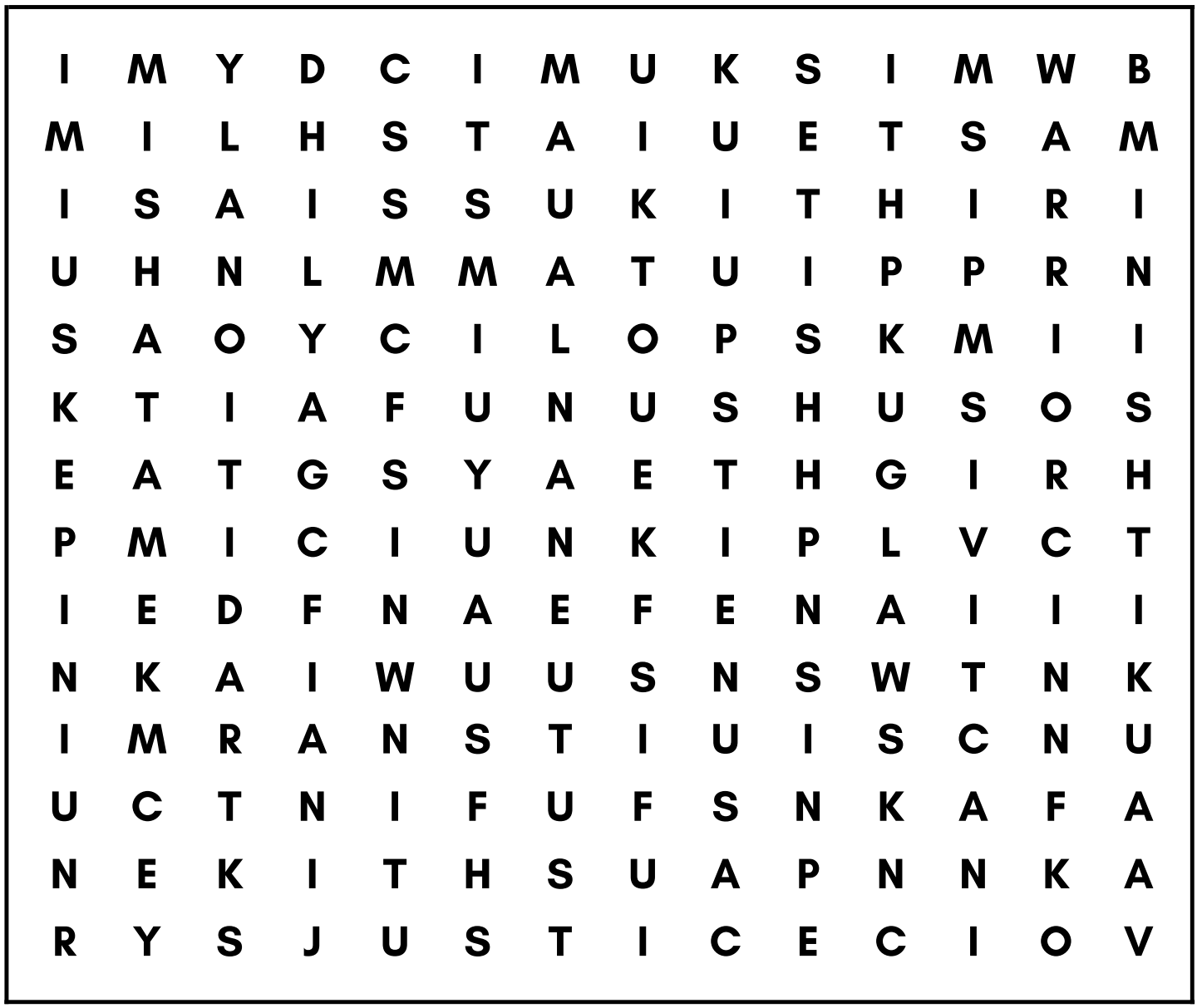
There exist many variations of the creation story of Turtle Island. Some Ojibwe oral traditions, begin with a flooded Earth. The Creator had cleansed the world of feuding peoples in order to begin life anew. Some animals survived the flood, such as the loon, the muskrat and the turtle. Nanabush — a supernatural being who has the power to create life in others — was also present. Nanabush asked the animals to swim deep beneath the water and collect soil that would be used to recreate the world. One by one the animals tried, but one by one they failed. The last animal that tried, the muskrat, was underwater for a long time, and when it resurfaced, the little animal had wet soil in its paws. The journey took the muskrat's life, but the creature did not die in vain. Nanabush took the soil and put it on a willing turtle's back. This became known as Turtle Island, the center of creation.



Innu Words


Kassekau
=waterfall
Miskumi=ice
Unushu=cod
Naneu=shore
Mishatamek=whale
Paushtik=rapid
Uinipek
=the sea
Piutam=descending
rapids in canoe
Minishtikua
=archipelago
Shipu=River

Innu words and activism

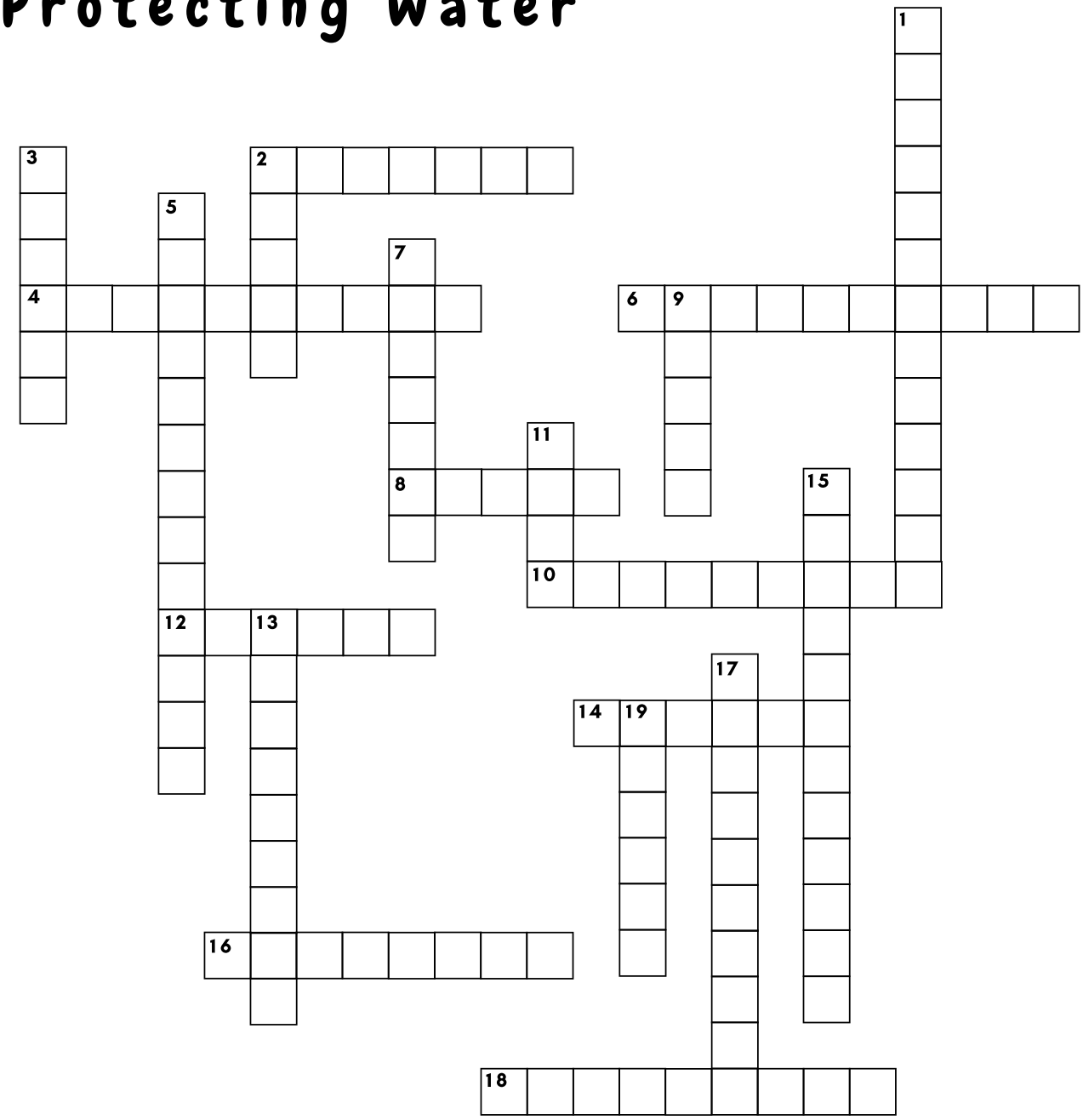


I M Y D C I M U K S I M W B
M I L H S T A I U E T S A M
I S A I S S U K I T H I R I
U H N L M M A T U I P P R N
S A O Y C I L O P S K M I I
K T I A F U N U S H U S O S
E A T G S Y A E T H G I R H
P M I C I U N K I P L V C T
I E D F N A E F E N A I I I
N K A I W U U S N S W T N K
I M R A N S T I U I S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

WORDS TO FIND

ACTIVISM
INNU
JUSTICE
KASSEKAU
LAWS
MASTEUIATSH
MISHATAMEK
MISKUMI
MINISHTIKUA
NANEU
PAUSHTIK
PIUTAM
POLICY
RIGHT
SHIPU
TRADITIONAL
UINIPEK
UNUSHU
VOICE
WATER
WARRIOR

Protecting water

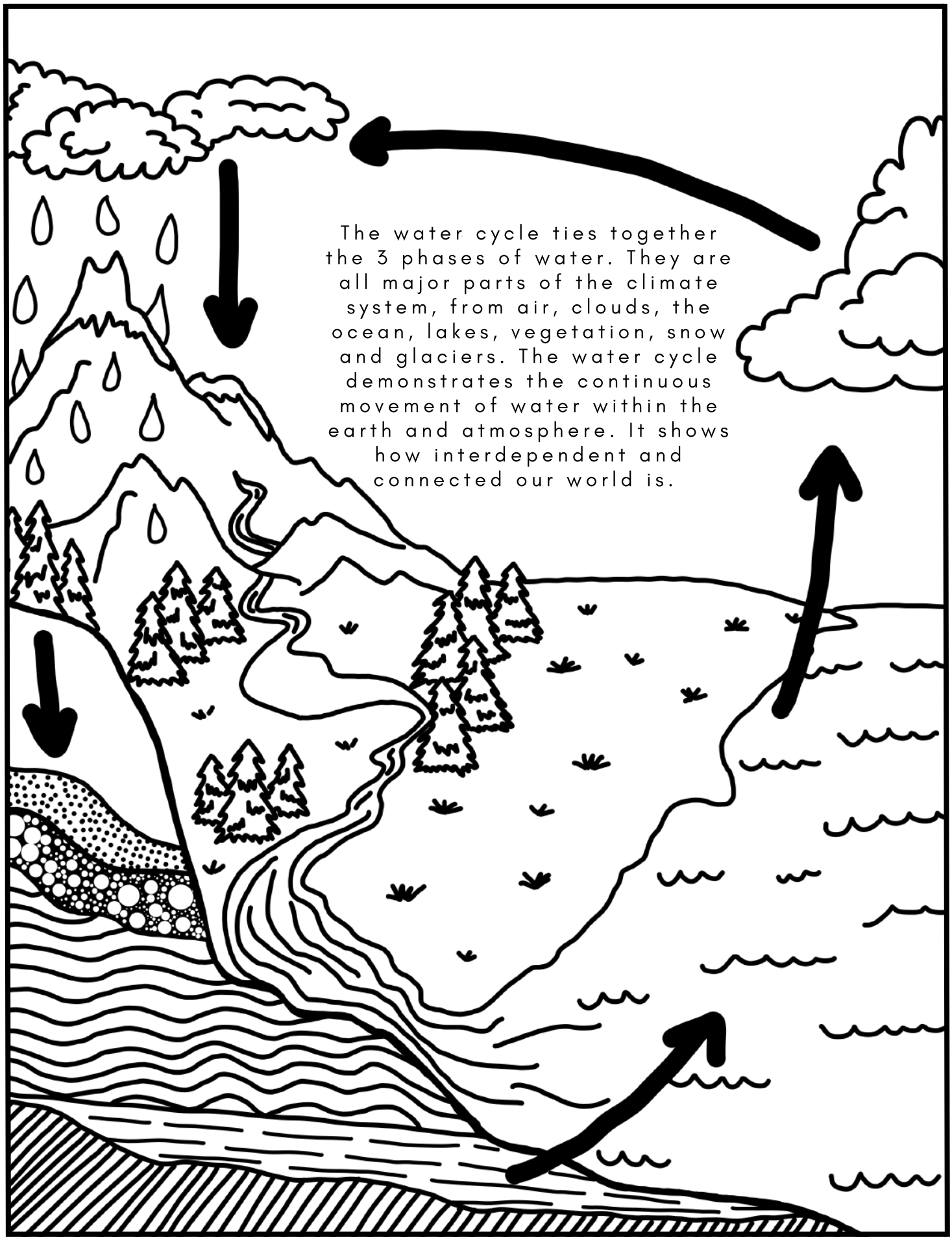


DOWN

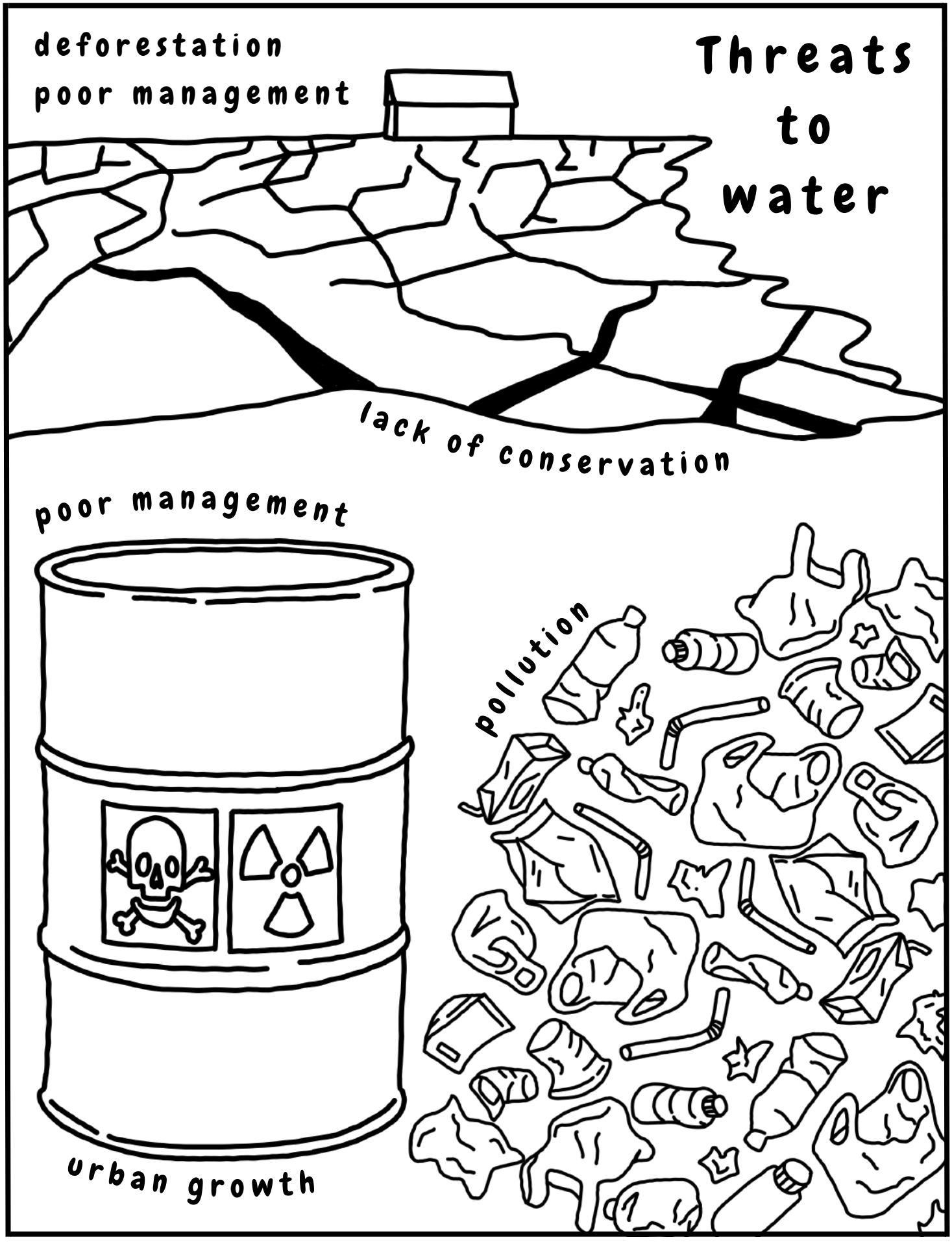
1. ECOLOGICAL
2. H2O
3. GOVERNING PRINCIPLE
5. THREAT TO WATER SECURITY (2WDS)
7. WHAT IS RIGHT
9. PLANET
11. PROTECTED TO KEEP ____
13. FORMED FOR A COMMON GOAL
15. WHEN WATER IS UNDRINKABLE (2WDS)
17. SHEILDING/CONSERVATION
19. TO MAKE A CHANGE, TO TAKE ______

ACROSS

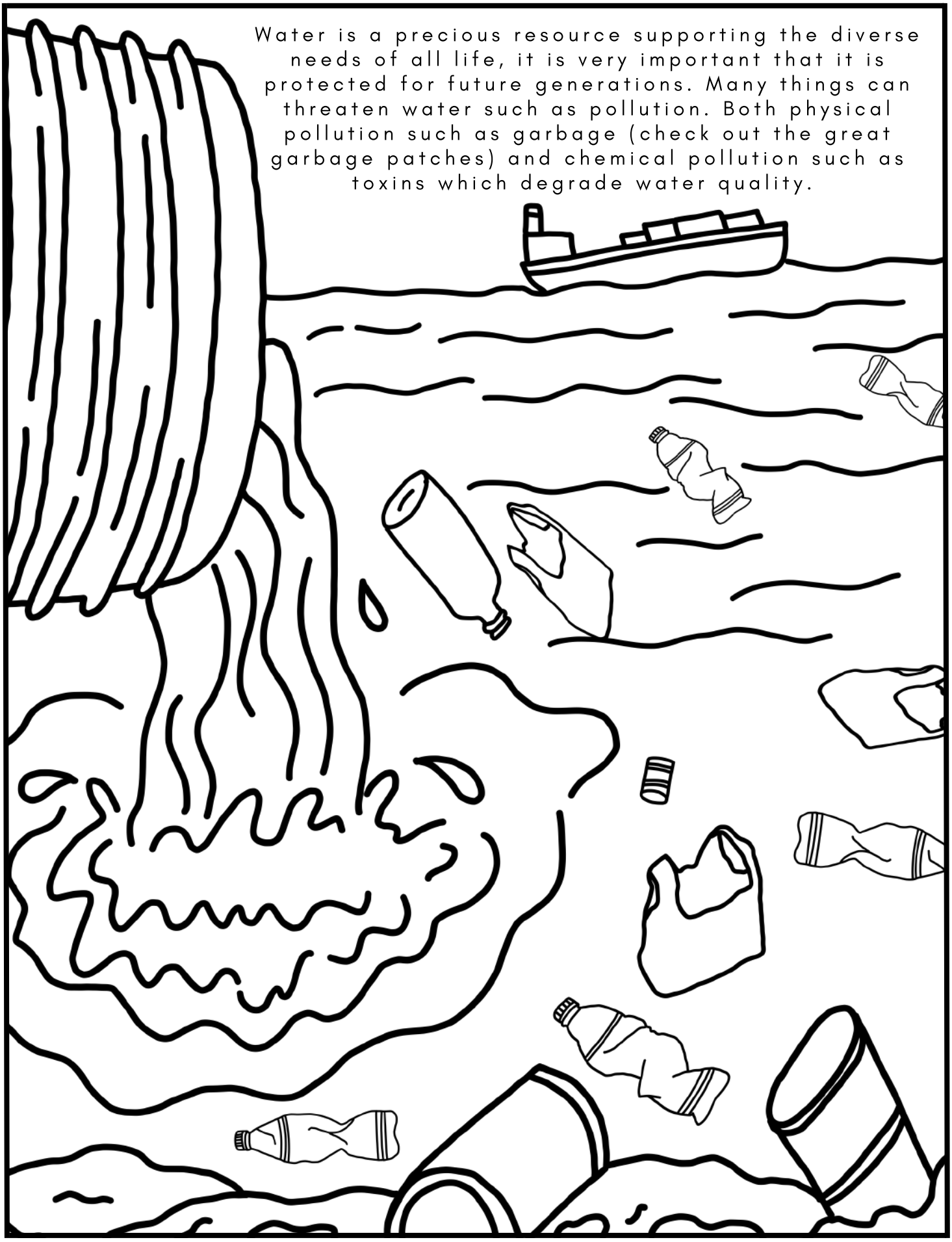
2. DEFENDER
4. FIRST NATIONS PEOPLE
6. TO RE-INDIGENIZE
8. DRINKABLE WATER
10. VITAL
12. ACQUIRE
14. DIVINE
16. SOCIAL COLLECTIVE ACTION
18. GROUP


The water cycle ties together the 3 phases of water. They are all major parts of the climate system, from air, clouds, the ocean, lakes, vegetation, snow and glaciers. The water cycle demonstrates the continuous movement of water within the earth and atmosphere. It shows how interdependent and connected our world is.

Threats to water



Water is a precious resource supporting the diverse needs of all life, it is very important that it is protected for future generations. Many things can threaten water such as pollution. Both physical pollution such as garbage (check out the great garbage patches) and chemical pollution such as toxins which degrade water quality.



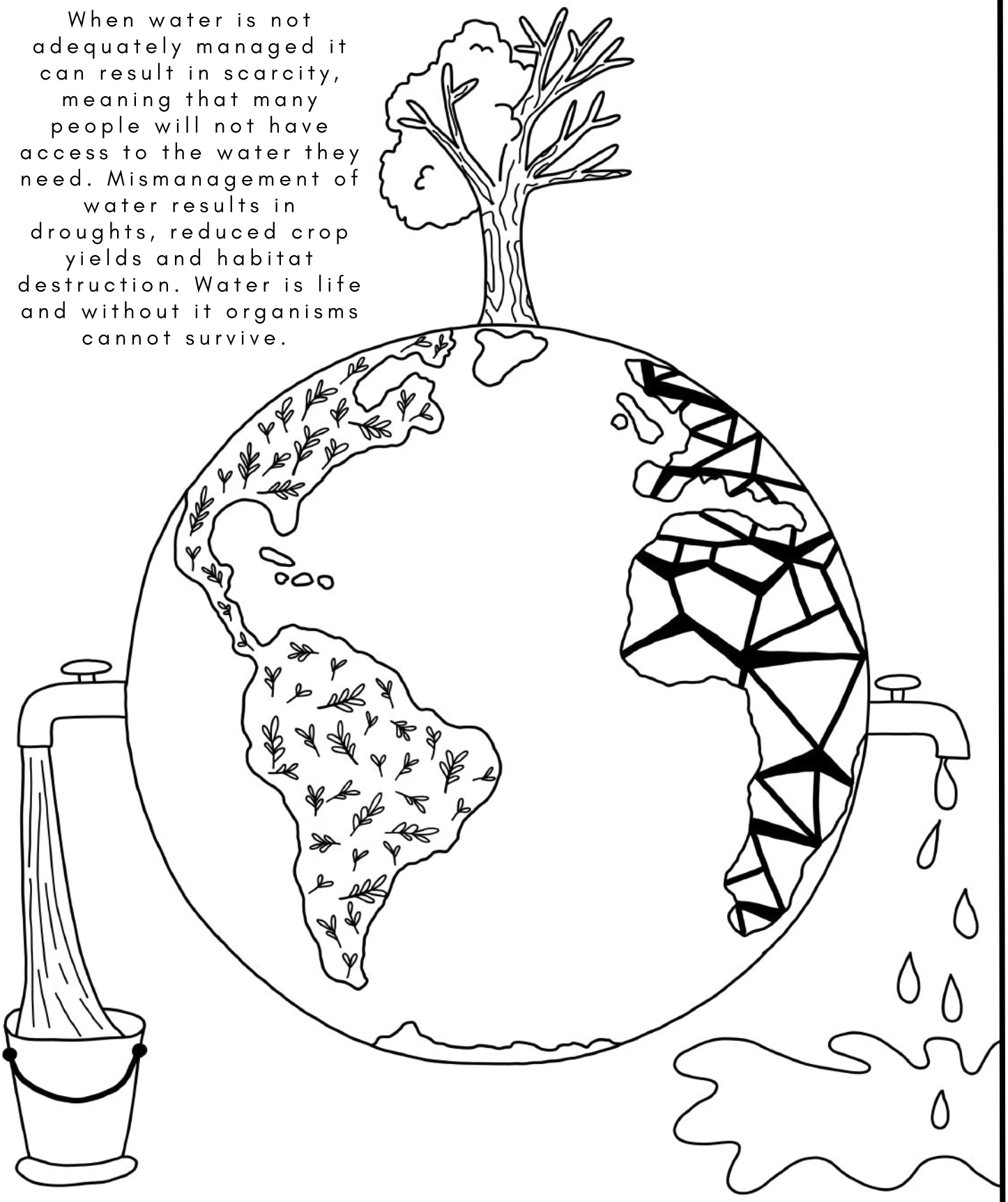
Addressing water conservation

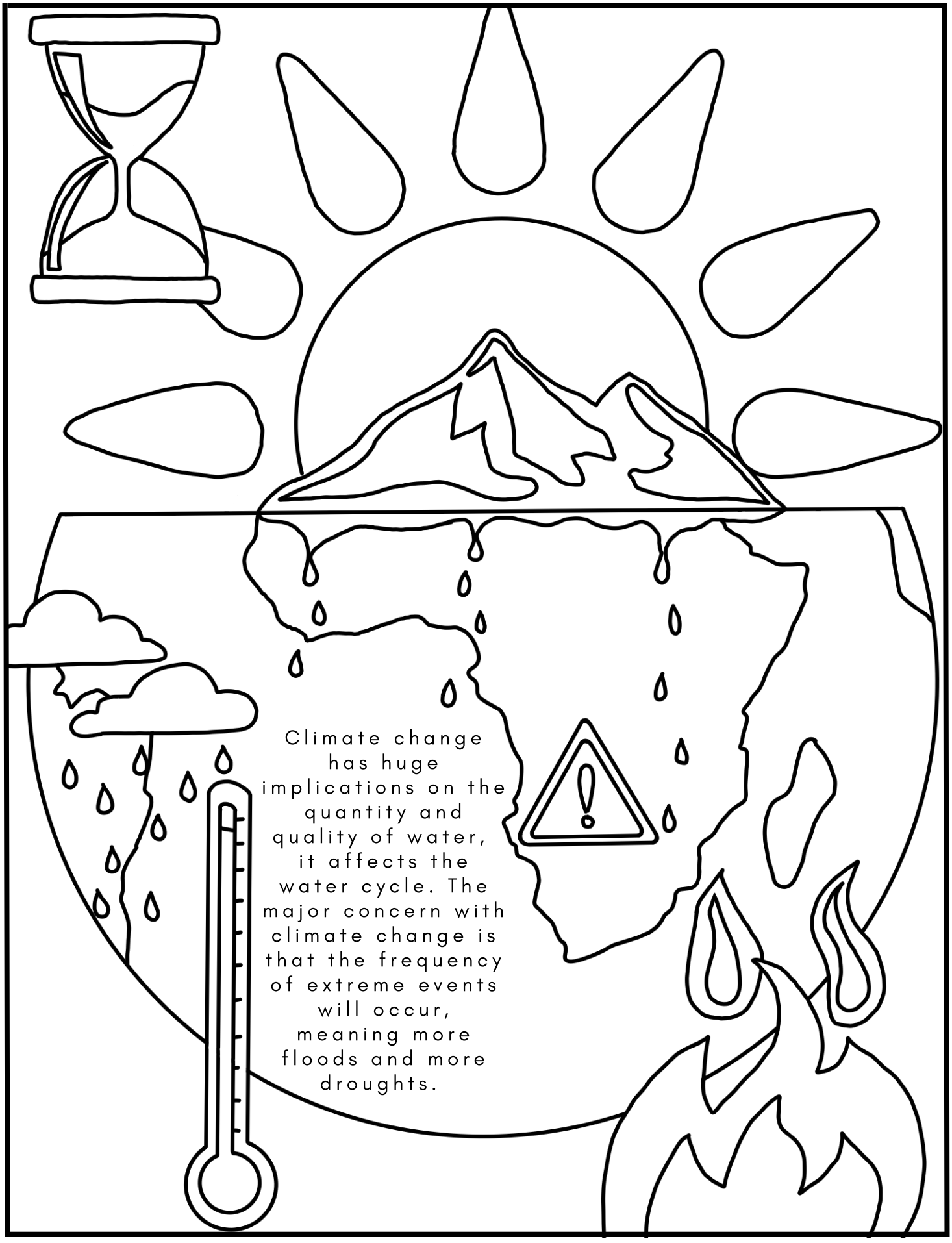
U R B A N G R O W T H E S S
N A G C I T S A L P D M E A
O Q R P C E S A E S I D G T
I U O O H T U P M S I R N R
T A N L E N L I U M I O A E
A C O I A A N S E L P U H A
T U I C R I E N U O R G C T
S L T Y N O T L L B D H E M
E T U G C A T I A I I T T E
R U L Y T U C N S P S E A N
O R L I R O A D S A L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

WORDS TO FIND

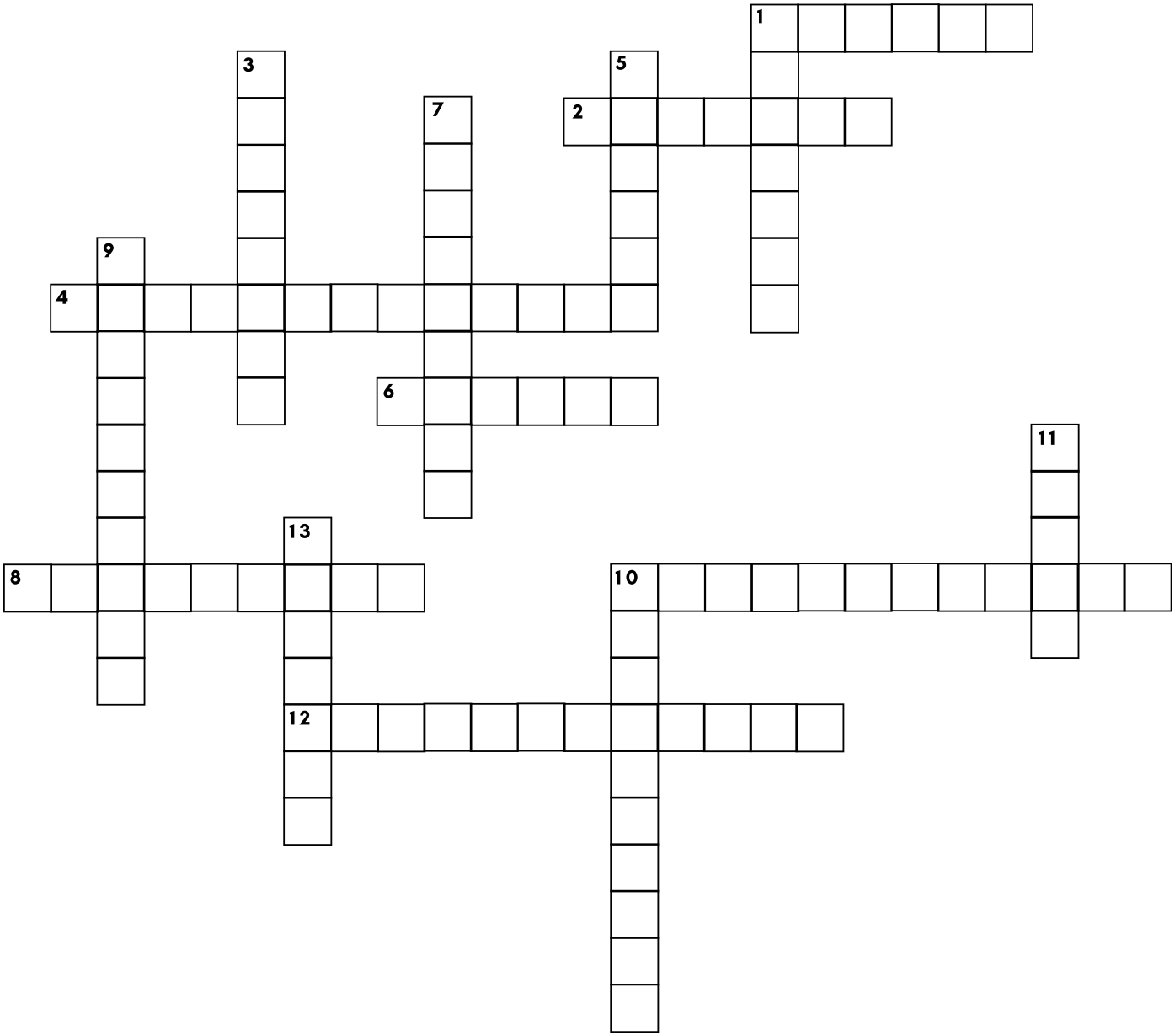
AGRICULTURE
AQUACULTURE
CHEMICALS
CLIMATE CHANGE
DEFORESTATION
DISEASE
DROUGHT
MICROBES
MINING
MISUSE
PESTICIDES
PLASTIC
POLICY
POLLUTION
ROADSALT
SEDIMENTATION
TREATMENT
URBAN GROWTH
WASTE

When water is not adequately managed it can result in scarcity, meaning that many people will not have access to the water they need. Mismanagement of water results in droughts, reduced crop yields and habitat destruction. Water is life and without it organisms cannot survive.




Climate change has huge implications on the quantity and quality of water, it affects the water cycle. The major concern with climate change is that the frequency of extreme events will occur, meaning more floods and more droughts.

Threats to water and related topics



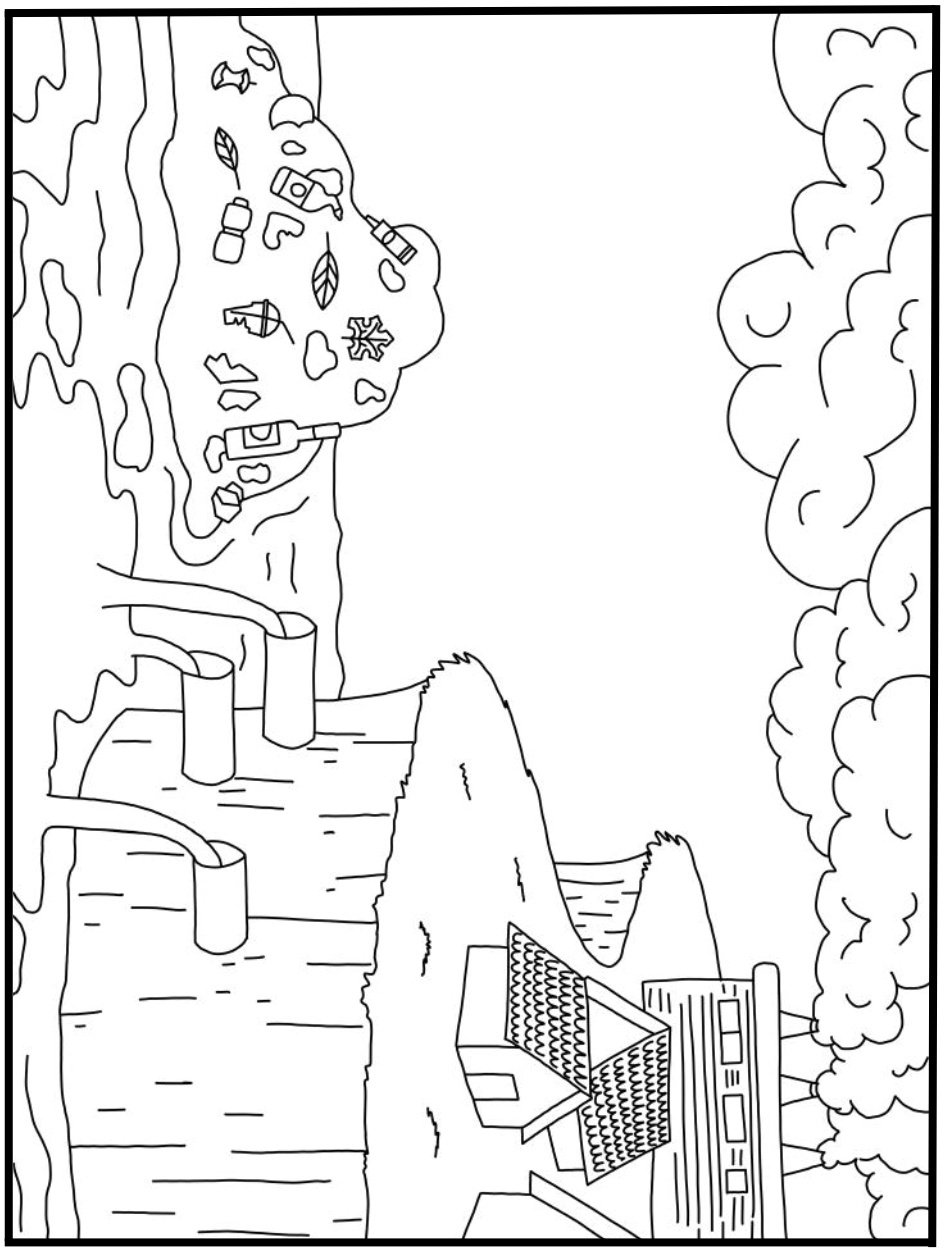
DOWN

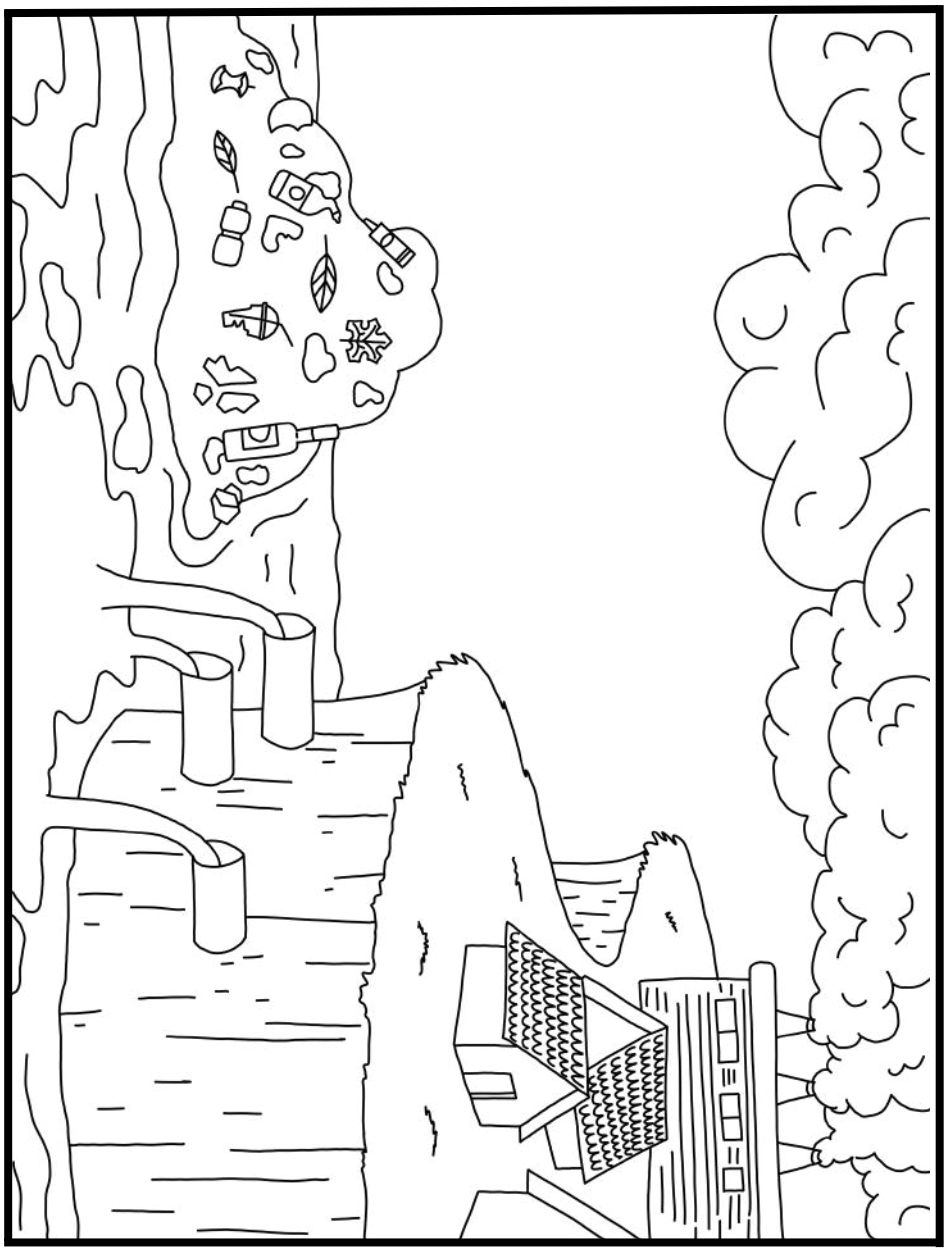
1. POLLUTANT
3. NATURAL ASSET
5. PROTECTION
7. LITTER
9. ACT OF MANAGING
10. PURE H2O
11. GARBAGE
13. AGRICULTURE

ACROSS

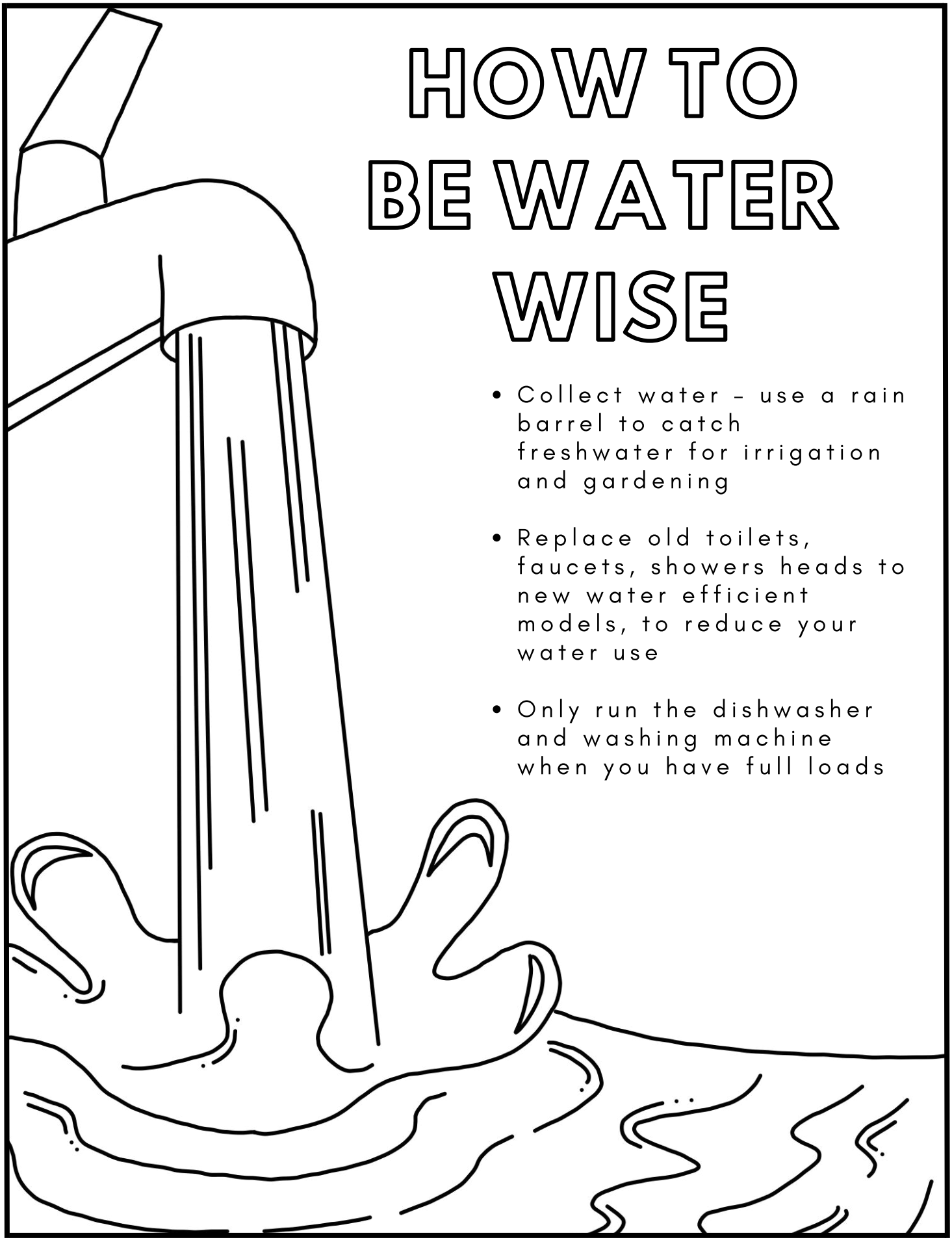
1. PRINCIPLE OF ACTION
2. LANDFILL
4. RELIABLE AVAILABILITY OF RESOURCE
6. IMPROPER UTILIZATION
8. DDT, PCB, MERCURY, ETC.
10. PRESENCE OF IMPURITY
12. BECOMING DENSELY POPULATED

SPOT THE 10 DIFFERENCES





HOW TO BE WATER WISE



- Collect water - use a rain barrel to catch freshwater for irrigation and gardening
- Replace old toilets, faucets, showers heads to new water efficient models, to reduce your water use
- Only run the dishwasher and washing machine when you have full loads

HOW TO GET INVOLVED

- Look into local initiatives around water conservation and take part in their events.
- Volunteer with your local conservation area, and regional conservation groups
- Donate to conservation in your community and national organizations if its within your capacity to do so

COMMUNITY GROUPS

Check out these great organizations

- Water Rangers
- Ottawa River Keeper
- Deep blue cleanup
- Ecology Ottawa
- Ocean Wise
- Conservation Ontario

SOURCES FOR WRITTEN WORK

- https://climatechangeconnection.org/impacts/health-impacts/drinking-water/
- https://www.nationalgeographic.org/article/how-climate-change-impacts-water-access/
- https://www.conserve-energy-future.com/causes-effects-solutions-to-critical-problem-of-water-crisis.php
- https://www.noaa.gov/education/resource-collections/freshwater/water-cycle
- https://www.wwf.org.uk/what-we-do/protecting-our-rivers-lakes-and-freshwater
- https://www.nationalgeographic.org/education/freshwater/#:~:text=Freshwater%20is%20vital%20for%20life,generation%2C%20manufacturing%2C%20and%20sanitation.
- https://freshwaterwatch.thewaterhub.org/about/why-fresh-water
- https://www.epa.gov/greatlakes/facts-and-figures-about-great-lakes
- https://wdarch.com/2015/07/water-conservation-5-tips/
- https://gpm.nasa.gov/resources/faq/why-are-water-cycle-processes-important
- https://www.volusia.org/services/growth-and-resource-management/environmental-management/natural-resources/water-conservation/25-ways-to-save-water.stml
- https://www.macleans.ca/longforms/autumn-peltier-on-youth-activism-challenging-trudeau-and-a-future-in-politics/
- https://www.thecanadianencyclopedia.ca/en/article/autumn-peltier
- https://www.thecanadianencyclopedia.ca/en/article/josephine-mandamin
- https://www.thecanadianencyclopedia.ca/en/article/turtle-island
- https://indiancountrytoday.com/archive/ojibwe-grandmother-and-water-walker-josephine-mandamin-honored-for-conservation

ANSWER KEY

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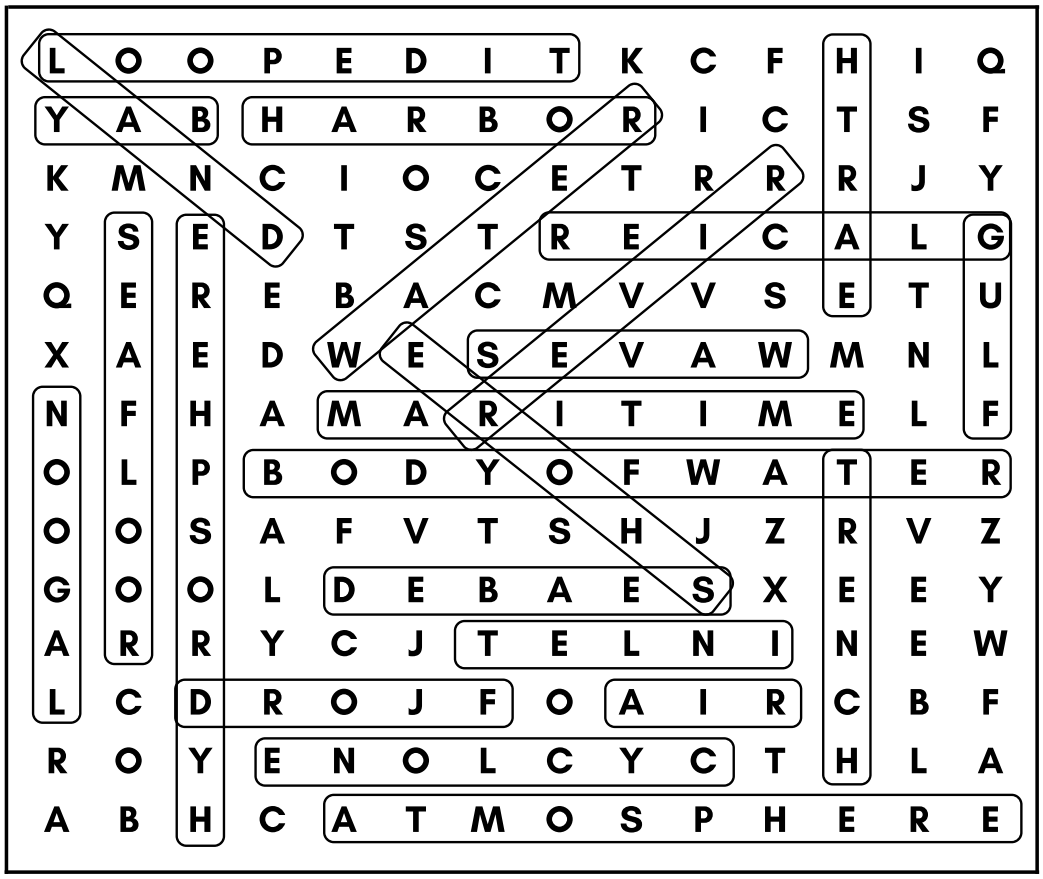

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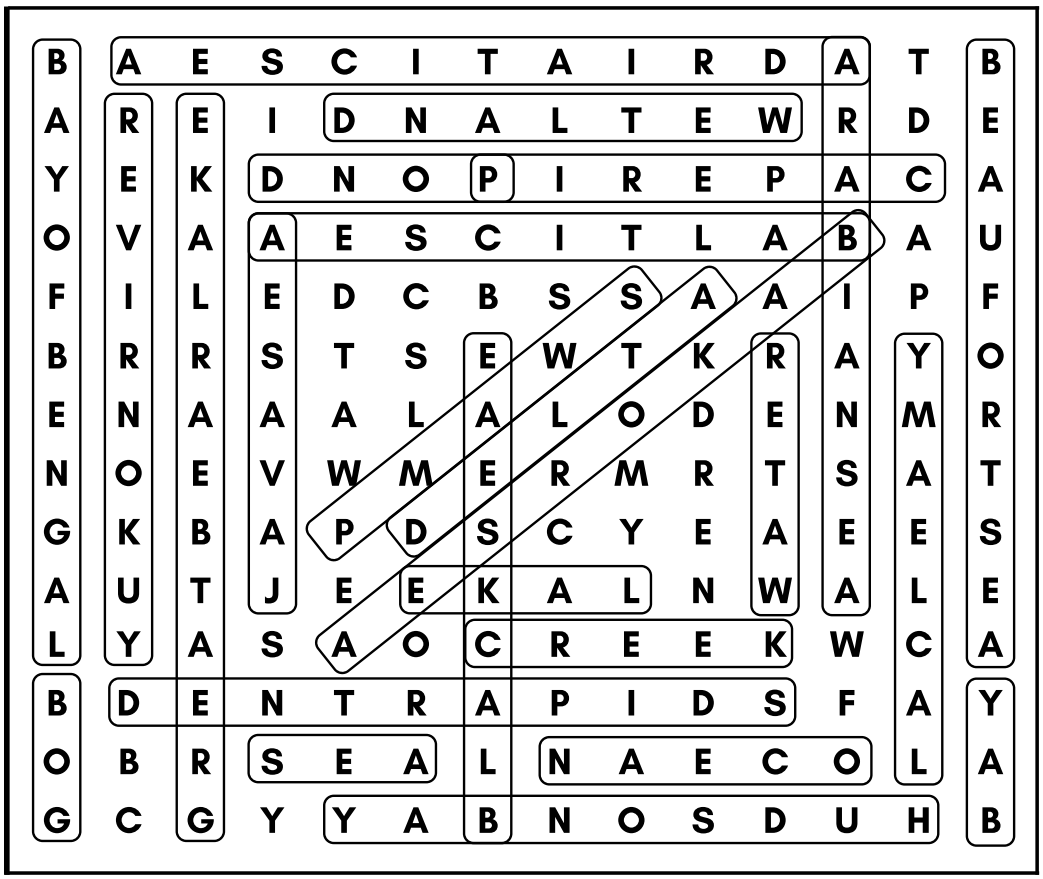

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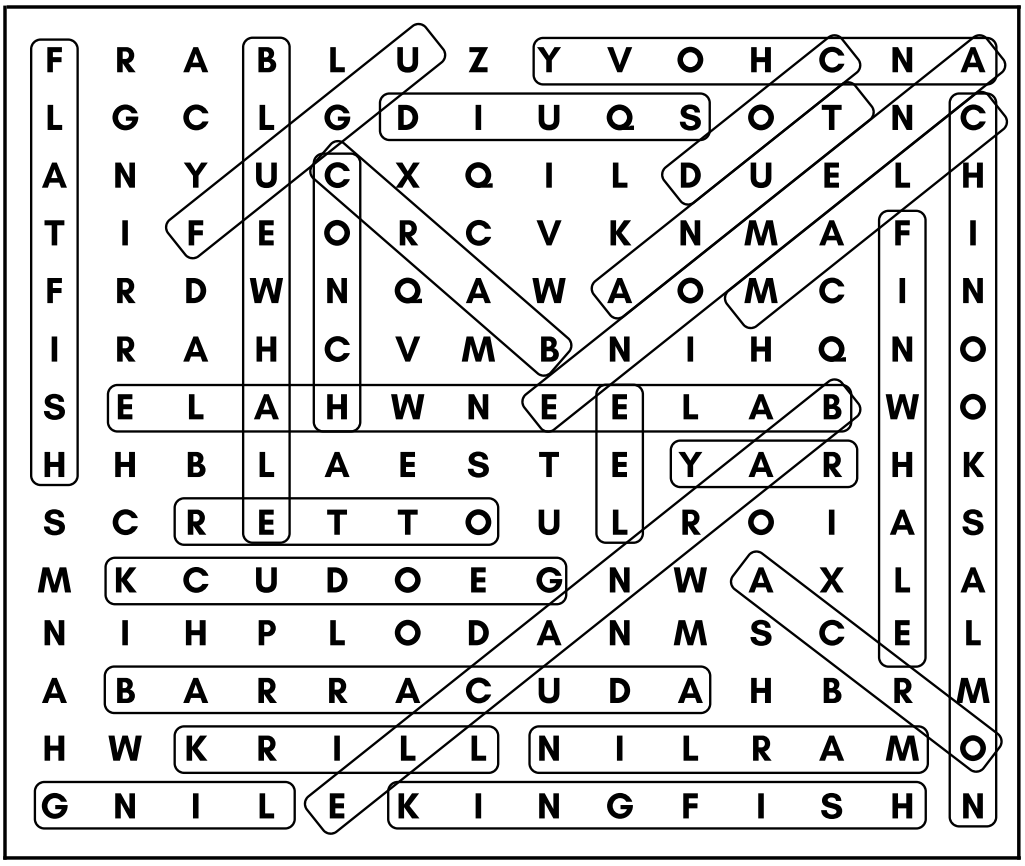

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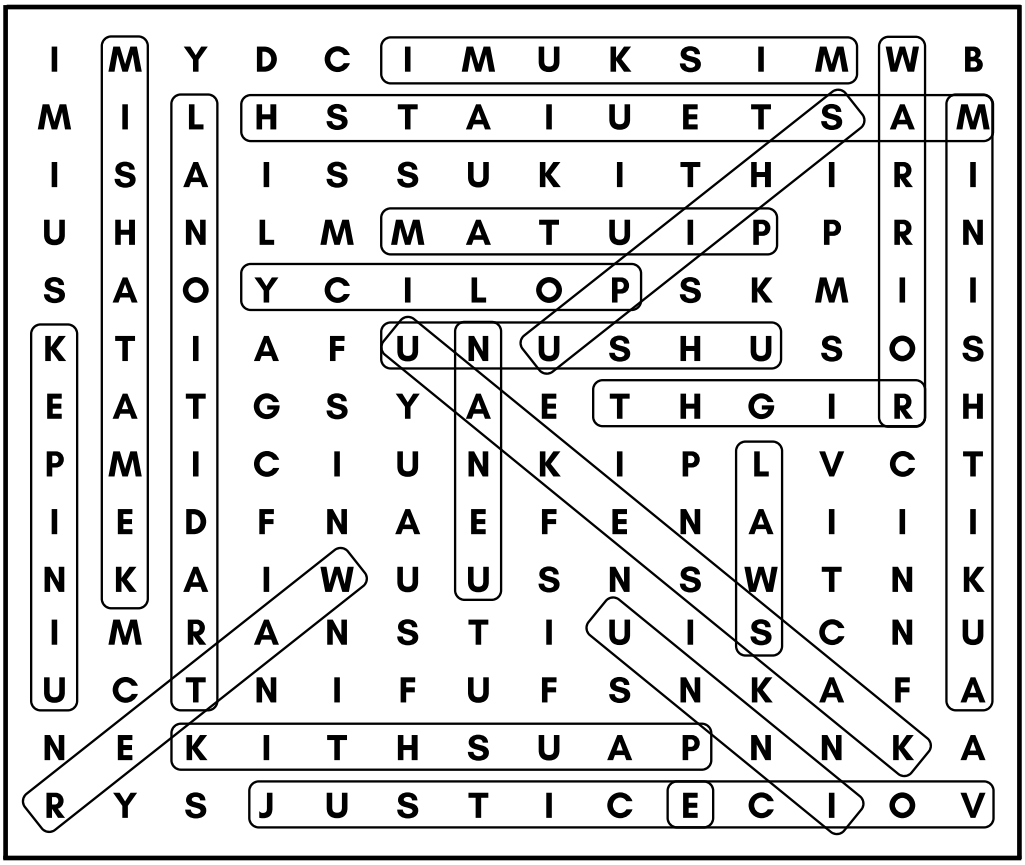

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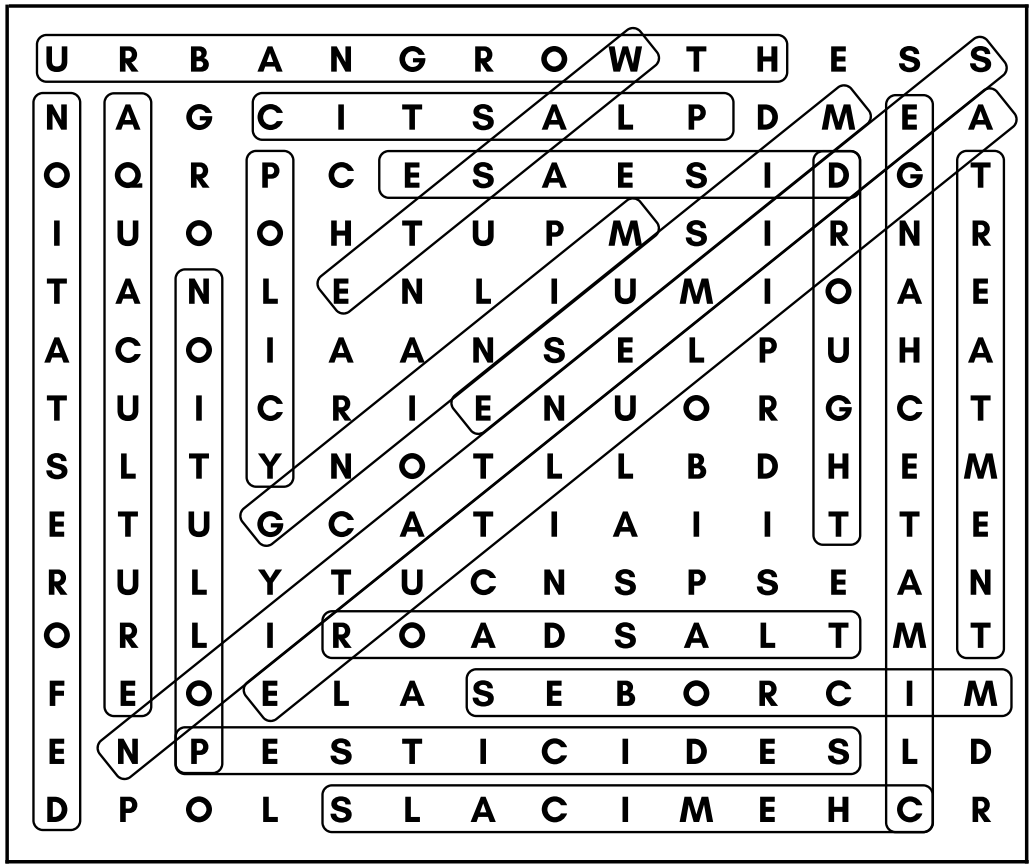

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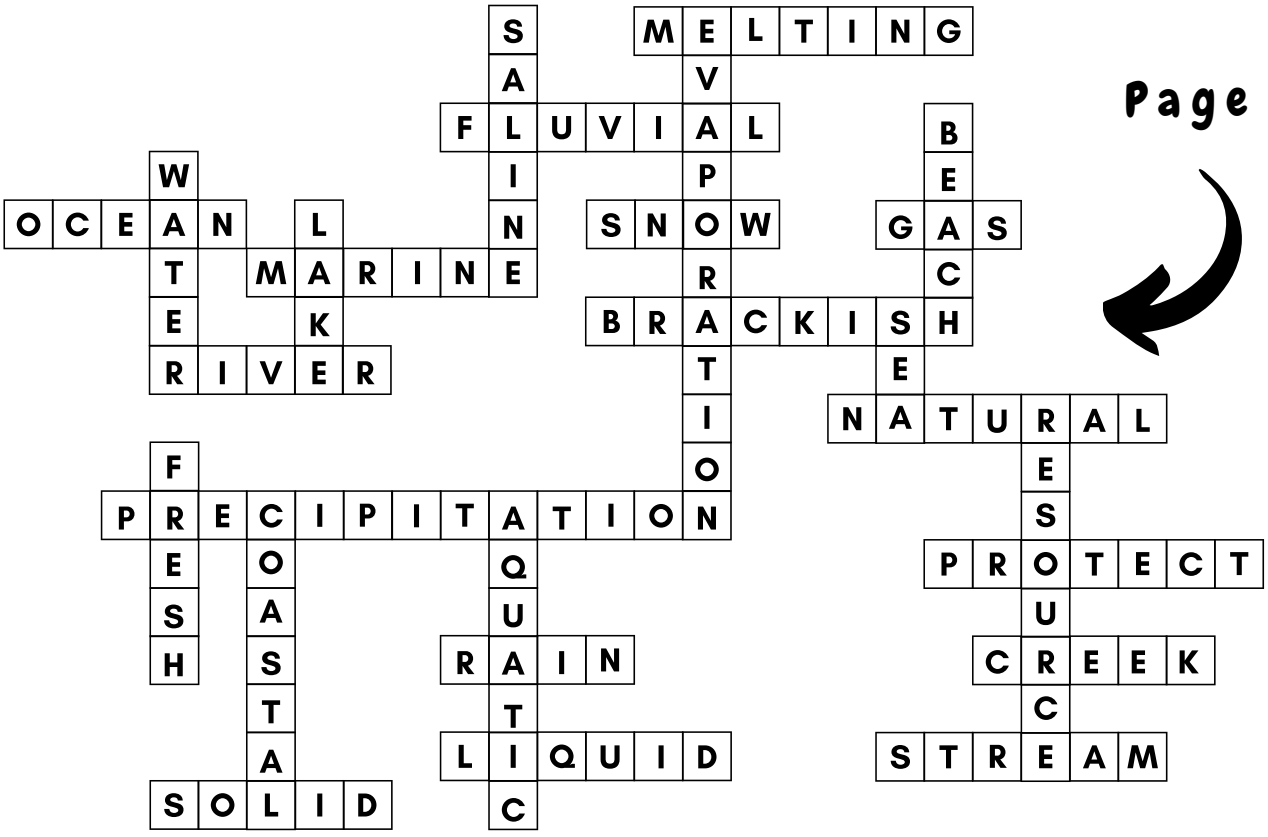

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Page 12

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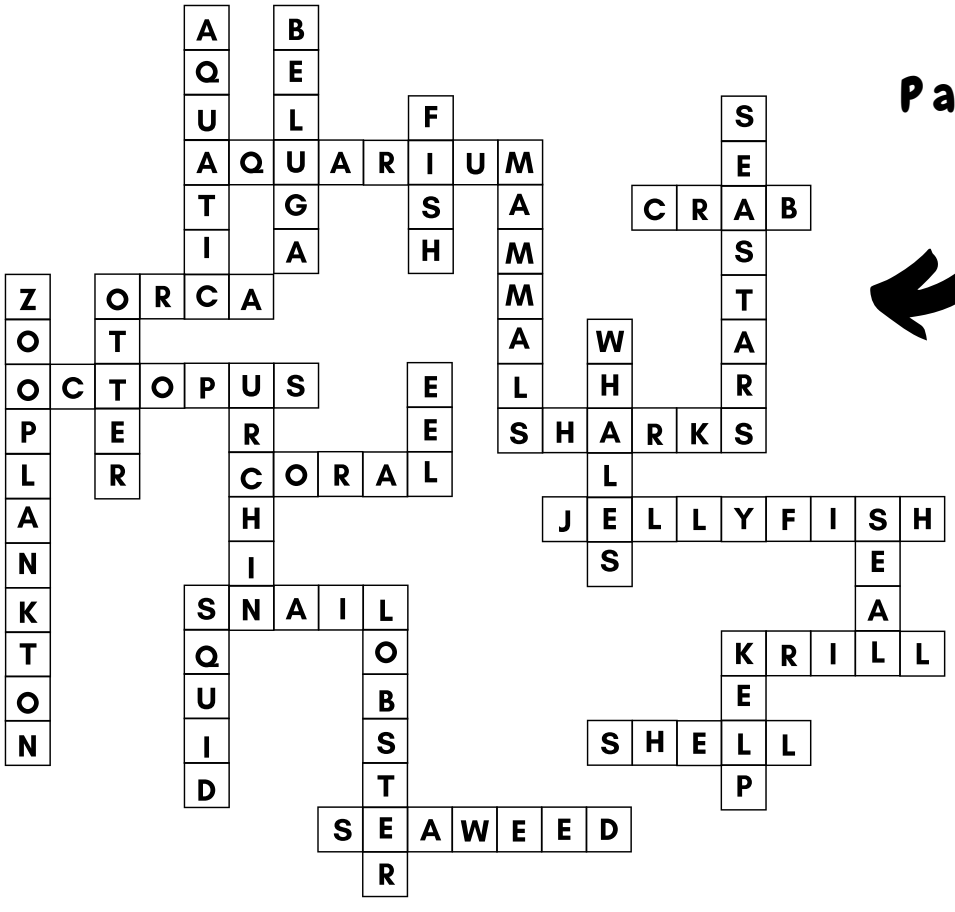

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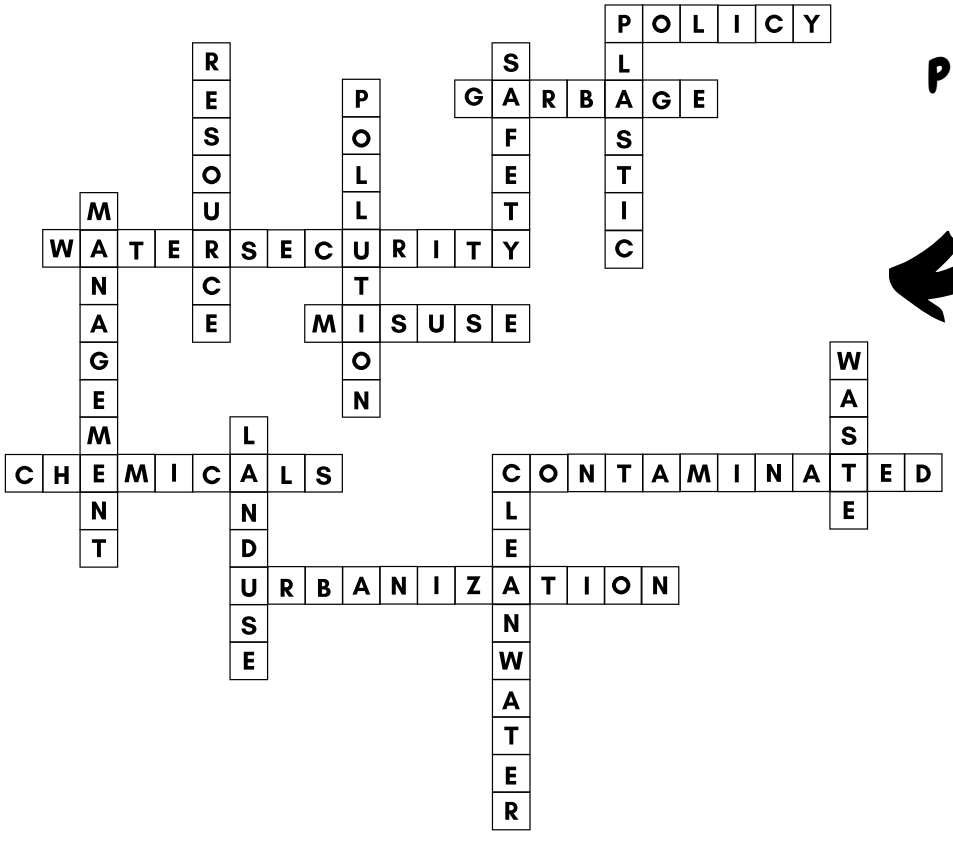

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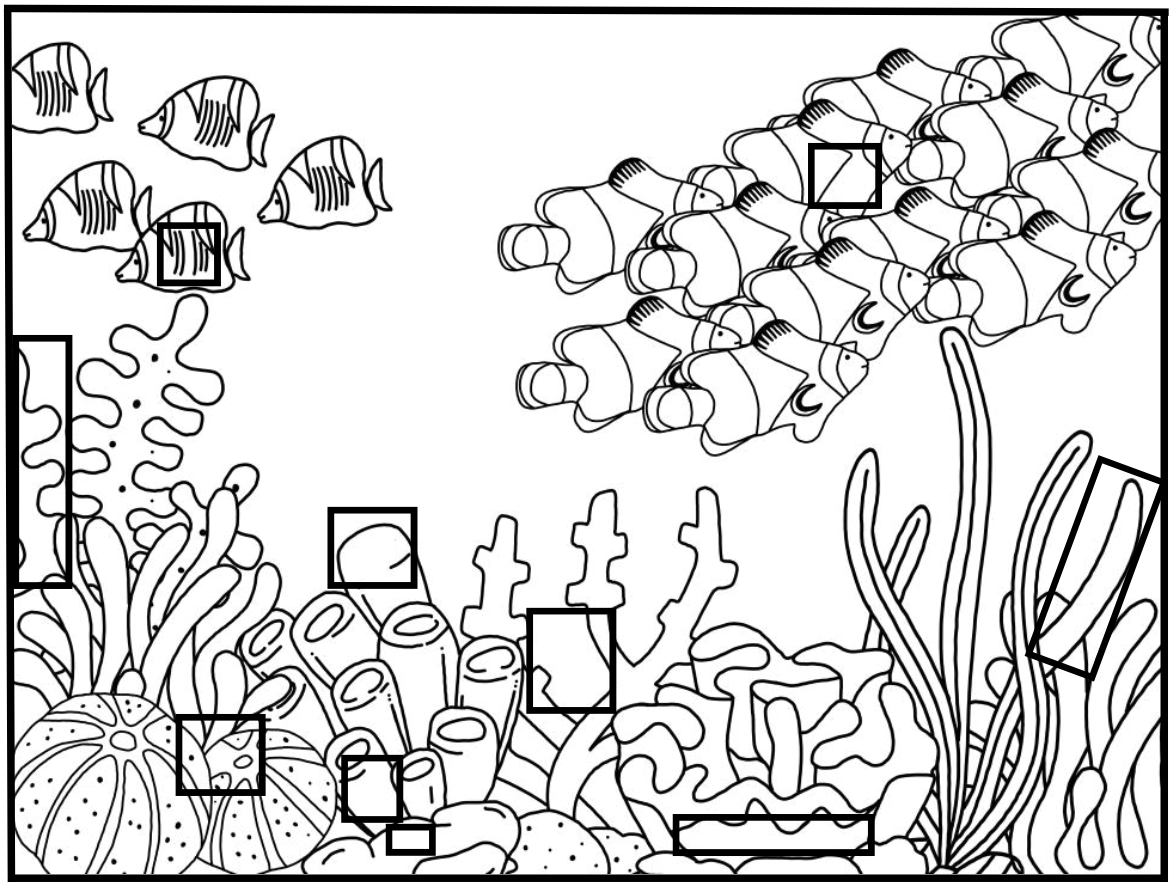

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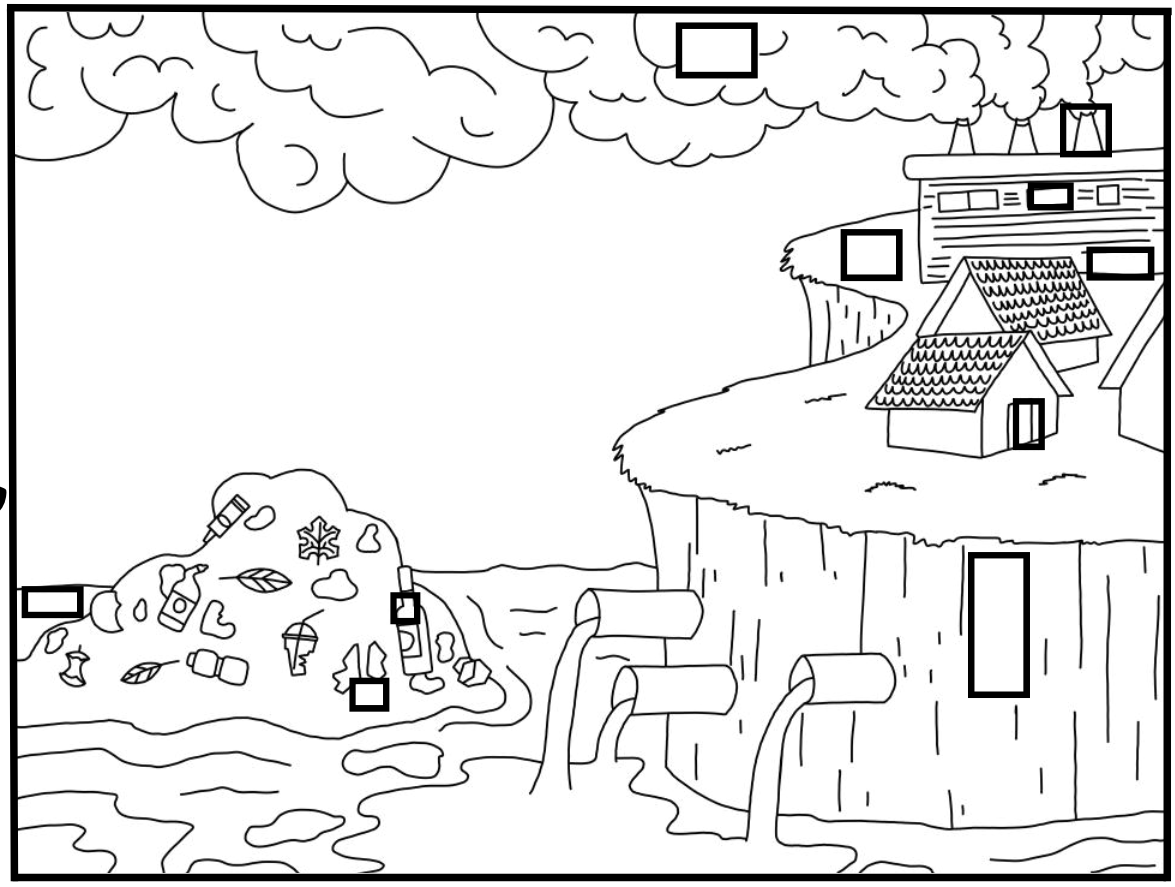

ABOUT THE AUTHOR

Rae Landriau is graduate student with a passion for the environment and activism. They enjoy spending their free time in nature. They are inspired by, the environment and biota, finding peace in the quiet cracking of trees in the forest, the trickle of water in a creek and the way leaves rustle in the wind. Nature has always been a part of their upbringing from walks and bike rides in the greenbelt, to camping and swimming. They have a desire to make a difference in the world around them by engaging people in community service projects, educational outreach and through philanthropic efforts. They were drawn to the Ocean Bridge program to connect with like minded individuals passionate about conservation and water. Their service project with Ocean Wise was creating this book, which has been funded by the Youth Ocean Action Grant. Additionally, they have founded **@createchangecollective** in order to engage community members in current environmental issues through educational campaigns and events.

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