

# AWESOME ACTIVITIES

CONSERVATION AND SUSTAINABILITY





# DR ADAM ROSE



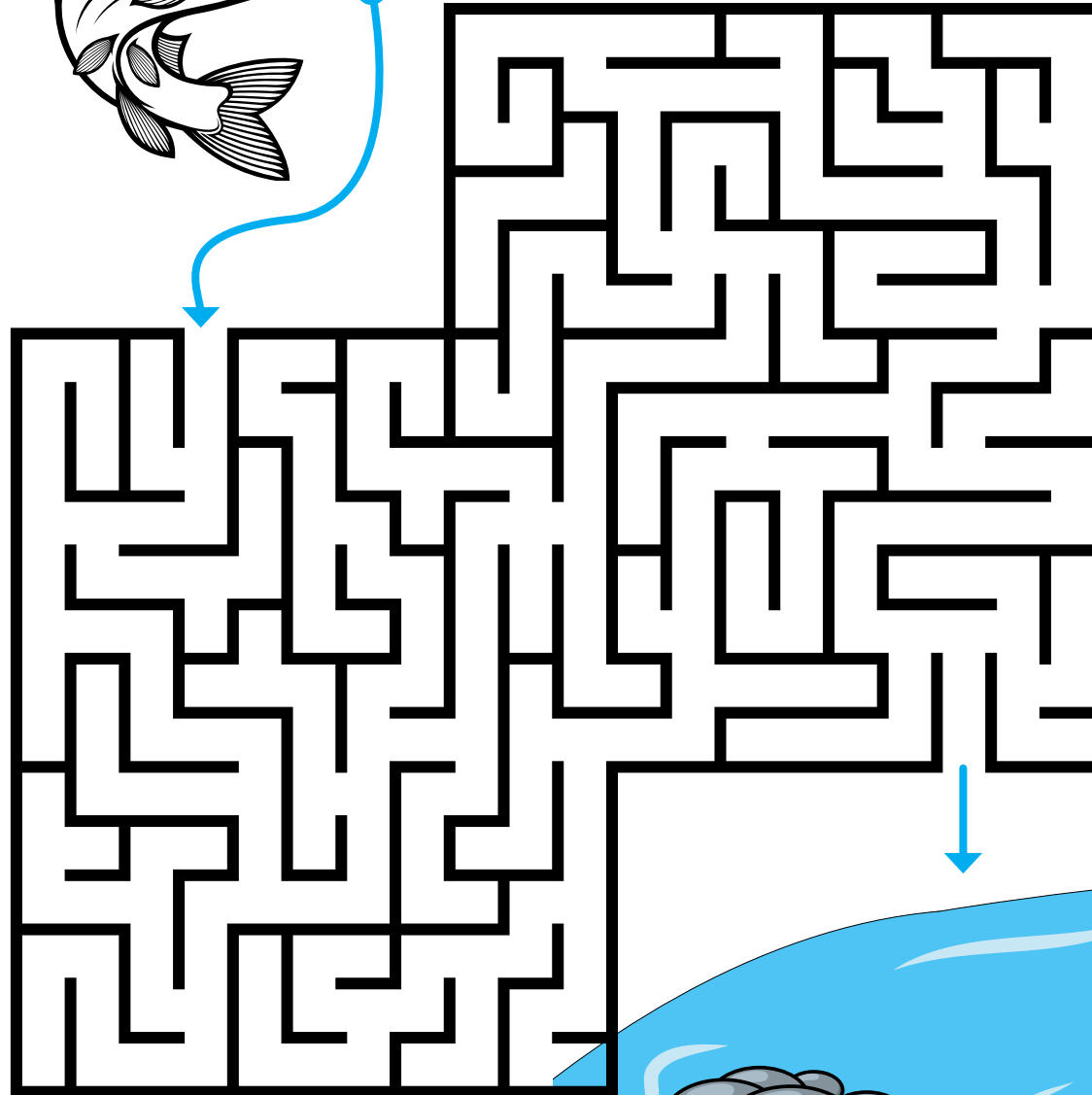
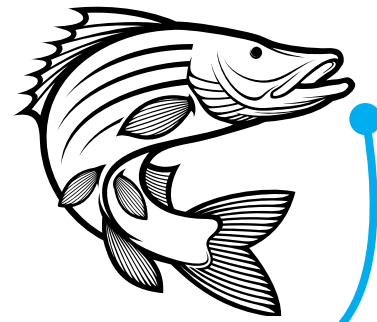
Adam's dream of becoming a professional surfer and visiting beaches and reefs around the world, turned into protecting Queensland waterways and their inhabitants.

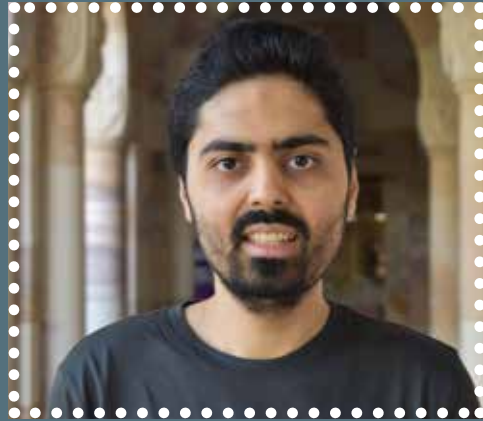
Did you know our creeks, rivers and reefs have some of the most interesting animals and plants in the world?



When I'm not exploring our waterways, I love growing my favourite foods in the backyard garden including tomatoes, herbs and potatoes.

# Help **Bazza the Barra** find his way home





Danish investigates using crushed waste glass in construction as a sustainable and cost-effective alternative to sand which is the world's second most used natural resource.

Disposal of waste glass has become an environmental challenge due to its limited end-uses and non-biodegradable nature.

“I've always wanted to be an engineer and solve real-world problems like recycling waste and conserving natural resources.”

## CAN YOU FIND ALL THE WORDS?

- CIRCULAR ECONOMY
- RECYCLING
- CONSERVATION
- DREAMER
- INNOVATION
- WASTE
- ENGINEERING
- CONSTRUCTION
- FUTURE
- DISCOVERY
- MATERIAL
- DIFFERENCE
- SOLVE
- IDEAS
- CREATIVITY

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



# KRISTEN THOMPSON



Growing up Kristen thought she would like to be a teacher, dentist or forensic scientist.

It's her love of animals and the Australian bush that eventually led her to become an environmental scientist. You'll find her out in the field recording bat and bird calls so she can find out what they're up to and learn how to protect them and their environment.

You'll often see me wearing bright clothes with animals on them, however my field shirts are my favourite.

# COLOUR IN THE BUSH

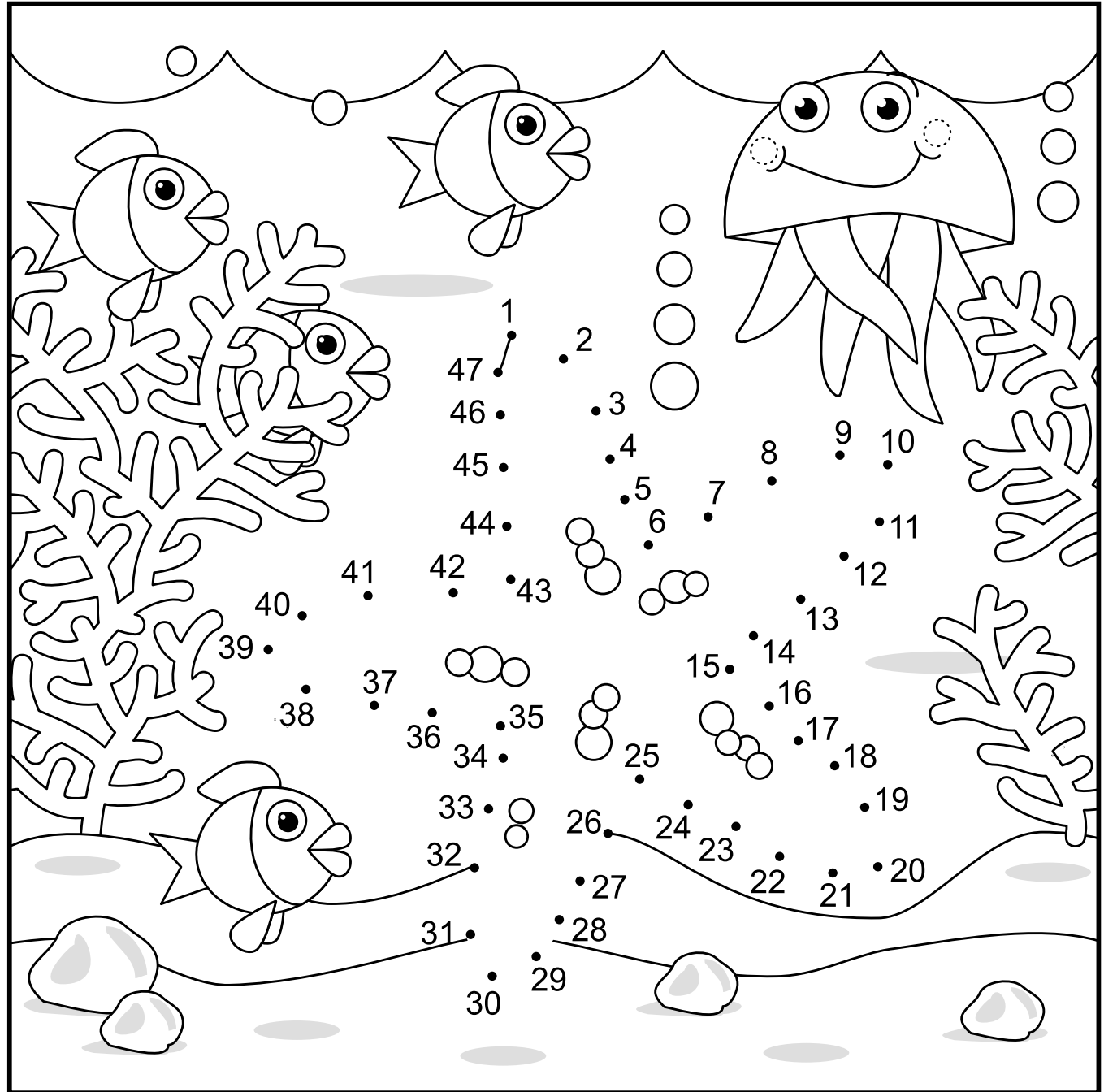




As a child, Michael wanted to be a mathematician or a marine biologist. He's now living that dream as he uses maths to help understand how nature works and decide how to save endangered species.

Mathematics can help us work out what actions can protect the Great Barrier Reef from climate change.

## JOIN THE DOTS AND DISCOVER WHAT I AM



DR JAVIER LEON



Javier likes to be outdoors, at the beach and surfing. As a coastal geographer he studies how landforms like beaches and coral reefs change over time.

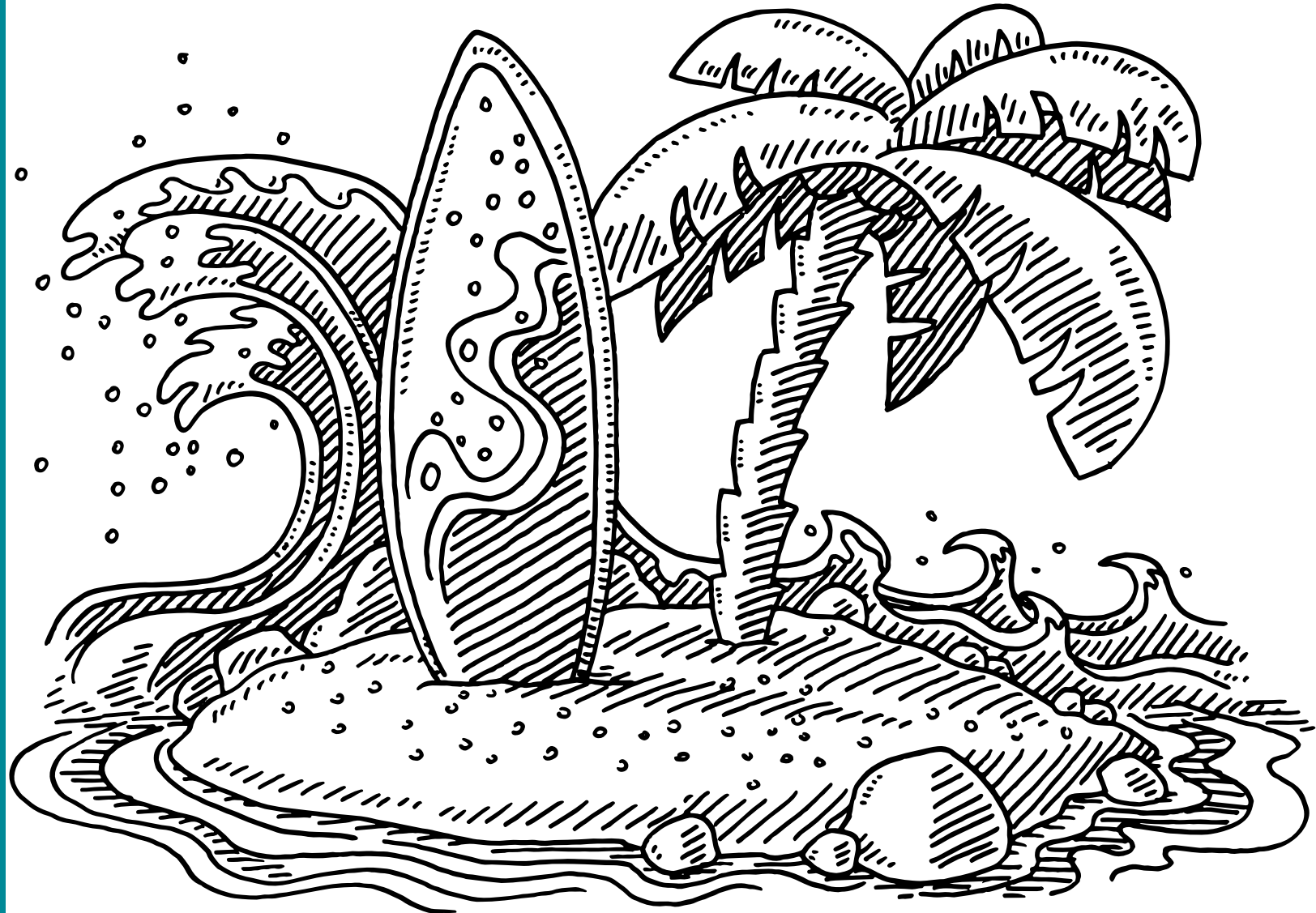
He uses technology like drones and remote sensors to map and collect data that will help us better understand and manage our environment.



My work takes me all over the world and I have travelled to all seven continents.

# SURF'S UP

COLOUR ME IN HAPPINESS



# DR KATE HELMSTEDT



Kate loved going to school and found learning new things exciting, so she found a job where she never had to stop learning.

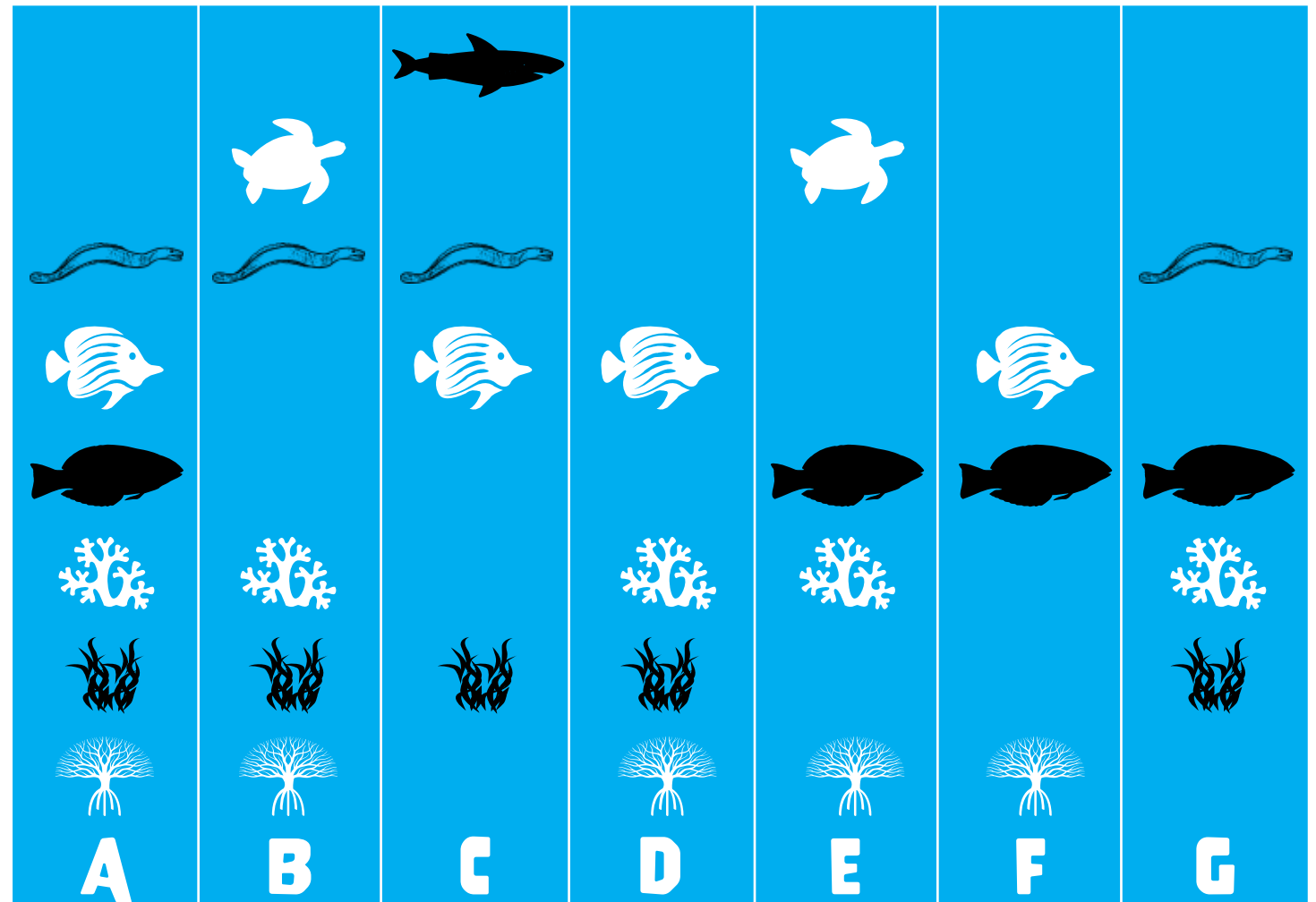
Today, she uses mathematical models to understand and protect animals, plants and the environment. Just like a detective, she explores the world and searches for answers.

I know this might sound unusual—my favourite animal is a Tasmanian Devil because they can bite through bones.

## CAN YOU HELP PRESERVE THE SPECIES?

In this image you will find 7 sites. Each site is home to different species of plants and animals. Using the image below, answer the following questions:

1. What is the total of species (plants and animals) in each site?  
A. \_\_\_\_\_ B. \_\_\_\_\_ C. \_\_\_\_\_ D. \_\_\_\_\_ E. \_\_\_\_\_ F. \_\_\_\_\_ G. \_\_\_\_\_
2. Which sites should you have to combine in order to save all the species? (You cannot repeat species and have to choose the least number of sites.)  
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# DR EDWARD MORGAN

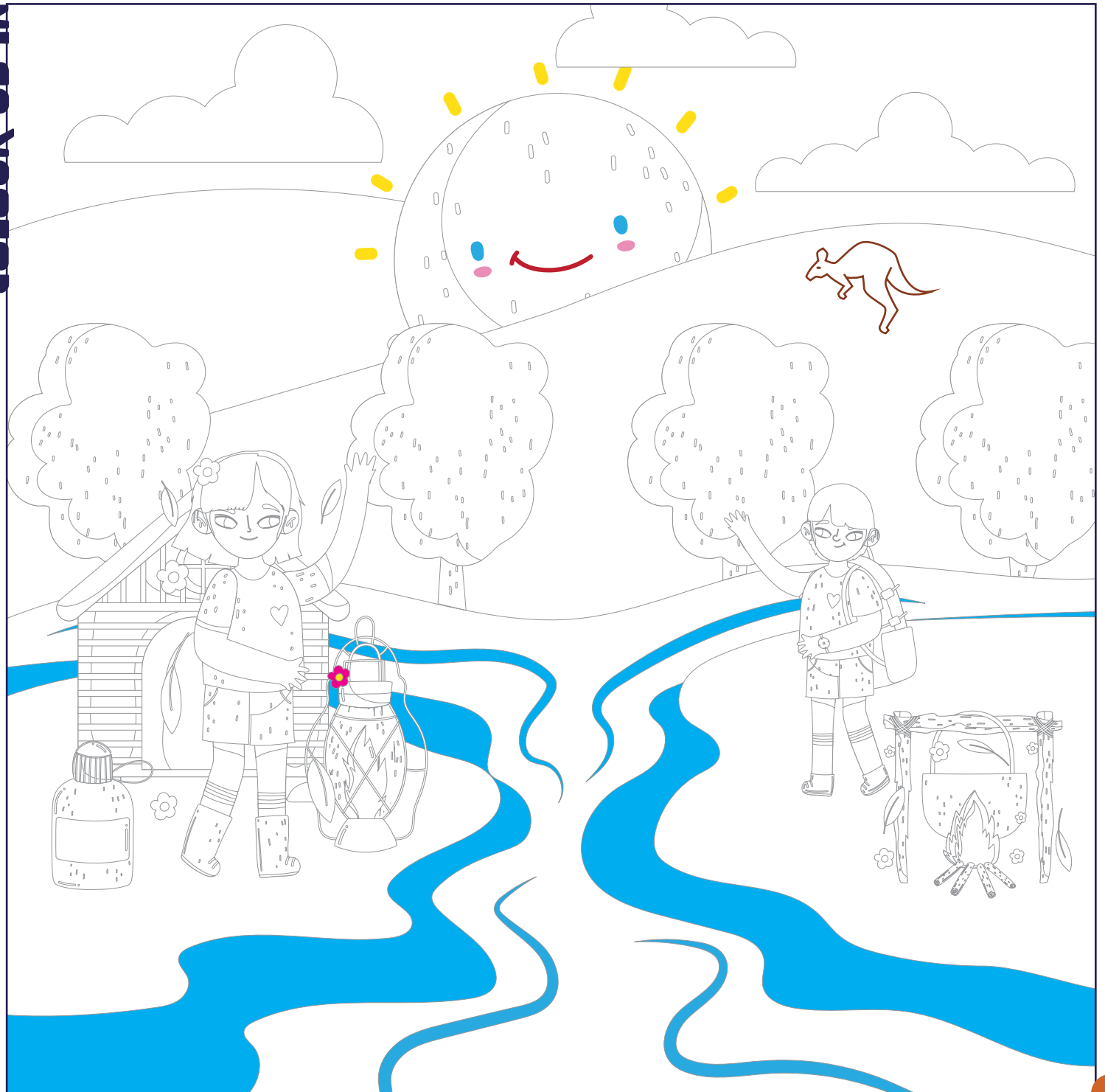


Ed wanted to become a scientist so he could understand the world better. His research involves land and water planning.

He's also looking at how developing countries can protect their forests, conserve water and adapt to climate change for a more sustainable future.

I love working with lots of different people and helping them think about the environment and how they can use natural resources better.

COLOUR US IN



# PROF SUSAN LAURANCE



Susan likes being outdoors and around animals so she became a wildlife biologist.

She studies what rainforest plants and animals need to survive and the changes that are happening to their homes. Susan loves her job because every day she's in the rainforest she discovers something new and special.

I remember the names of all the dogs, birds and plants in my neighbourhood but not the humans.

# FIND THE WILDLIFE WORDS

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

- RAINFOREST
- BUTTERFLIES
- CASSOWARIES
- HERBS
- TREES
- PRAYING MANTIS
- BRUSH TURKEYS
- POSSUMS
- VINES
- SKINKS
- KINGFISHERS
- ECHIDNA
- BIRDS
- GECKOS
- FERNS
- TREE KANGAROO



# KAREN GREAVES



Karen loved building things when she was a child and dreamed about becoming an architect.

Today, she explores how to create new communities that have less impact on the environment. She loves her work because she gets to build and shape towns and suburbs of the future.

At high school and university I liked to build and race solar cars.

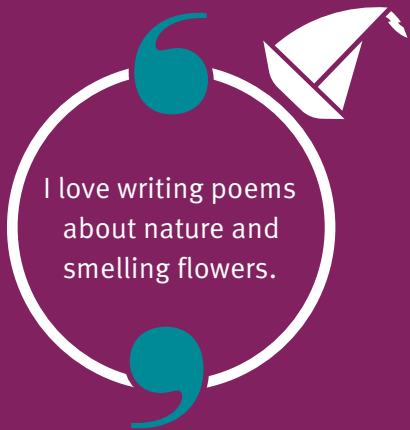
## COLOUR IN A SUSTAINABLE CITY





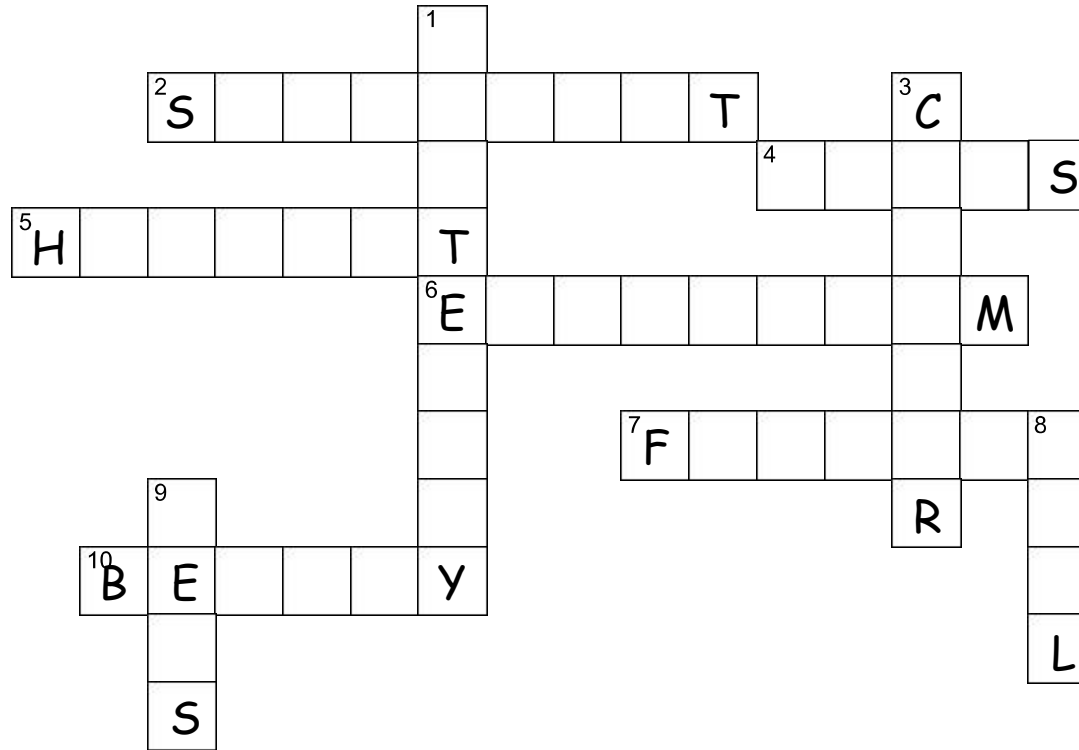
Ruby wanted to sail around the world and save the planet when she was in school. She's now saving landscapes damaged by building works as she returns soil and plants to these environments.

She likes working with other people to design, create and build green areas for all living things to enjoy.



I love writing poems about nature and smelling flowers.

# FLOWER POWER CROSSWORD PUZZLE



**ACROSS**

- 2 A desert-like plant with thick leaves that stores water
- 4 They crawl and wriggle
- 5 The natural home of an animal or plant
- 6 A community of living organisms
- 7 They bloom
- 10 Flowers have it—another word for pretty

**DOWN**

- 1 Has brightly coloured wings
- 3 A plant that climbs
- 8 Where plants can grow
- 9 They help pollinate



# KEELY PERRY

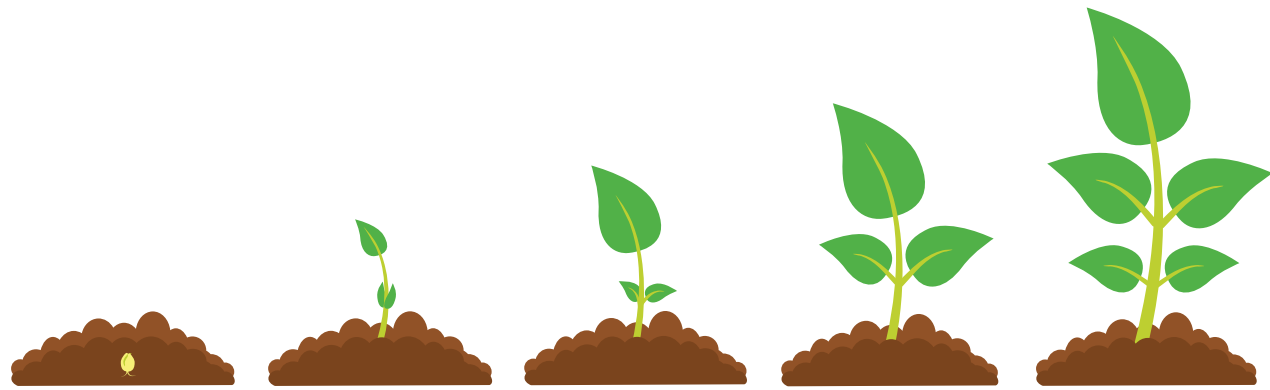


Keely grew up visiting her grandparents' farm and it was there that she discovered her love for nature.

She now works with plant biotechnology, where she investigates the use of plants to reduce the toxicity in soil caused by human contamination. Her research helps to improve the quality of our land, nutrition and the environment.

When I am not working with plants, I'm writing a science-fiction book series.

# CAN YOU SPOT THE FIVE DIFFERENCES?



# DR ROCIO PONCE



Growing up, Rocio dreamed of travelling the world to see new places, plants and animals, and try different foods.

As a conservation scientist she is now working to protect our natural diversity. She's also investigating the benefits of using insects as a food to reduce the habitat destruction of other animals and plants.

In Mexico, where I am from, we eat grasshoppers with lime and chilli.

# WHAT AM I? JOIN THE DOTS TO FIND OUT!



CLUE: \_ R \_ \_ \_ H \_ \_ \_ E \_

# DR MATTHEW BRIEN



Matt has always been fascinated by crocodiles and wanted to help look after them.

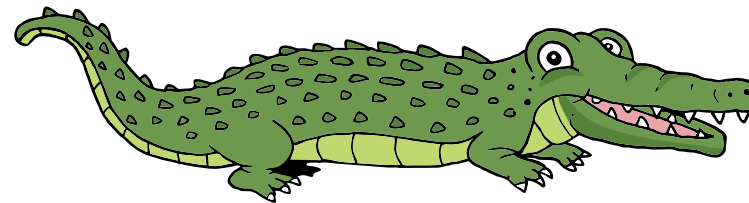
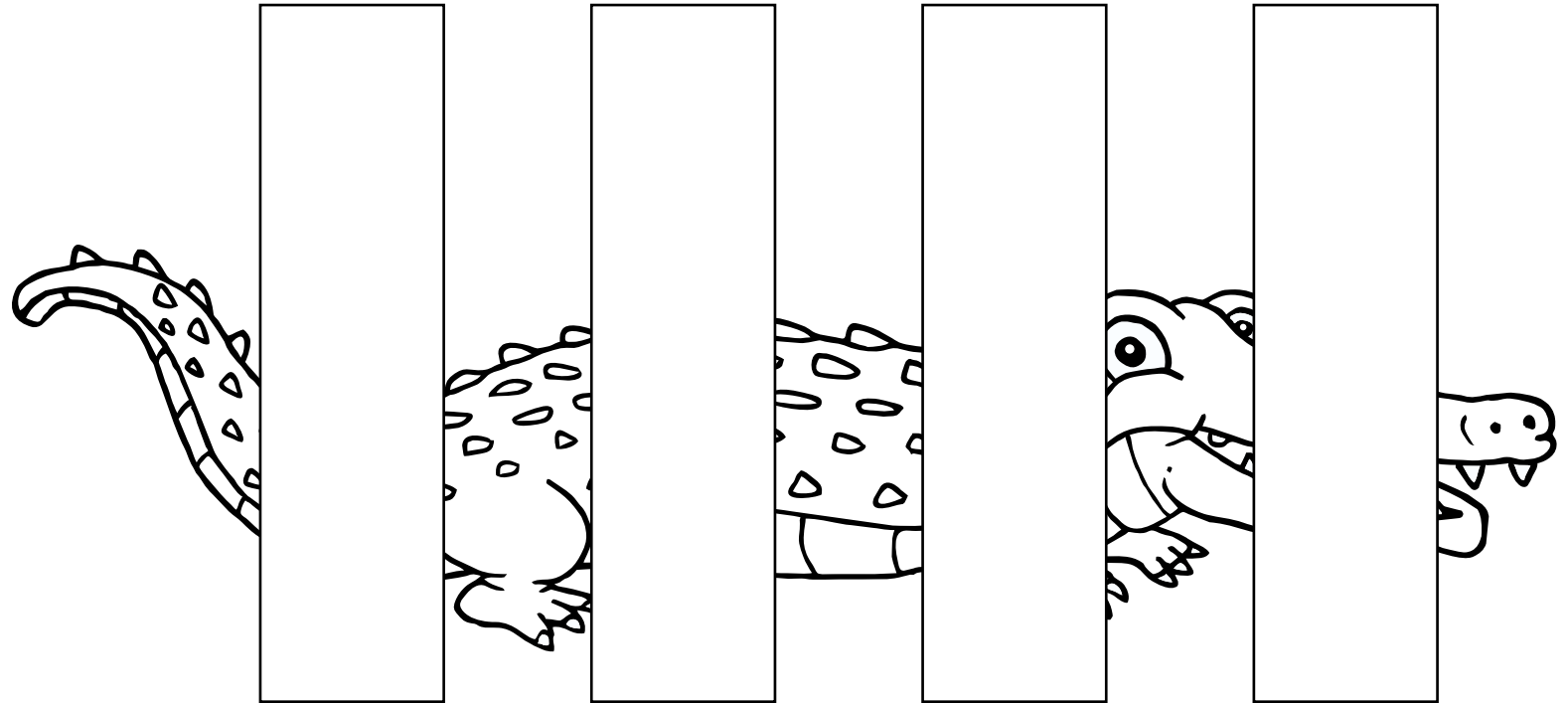
He loves his job because it allows him to get close to these animals, while also finding better ways to keep people safe from them.



My research helps to understand scaly, cold-blooded, slithering, biting wildlife.

## COMPLETE THE PICTURE OF THE CROCODILE

by copying the missing parts from the picture below  
—then colour in



# EMILY RICHARDS



Emily works in a laboratory where she studies the quality of water within Queensland's creeks and dams.

Her research helps to monitor the overall health of the environment and contributes to the protection of spectacular places such as the Great Barrier Reef.

I love working in teams and creating magical things together. Like when I played the clarinet in an orchestra.

# UNSCRAMBLE THE WORDS



FILTER PAPER  
QUALITY  
SEDIMENT  
NUTRIENTS  
CARBON  
PHOSPHORUS

HEALTH  
ENVIRONMENT  
ANALYSIS  
SAMPLE  
NITROGEN  
TURBIDITY

WATER  
CHLOROPHYLL  
FILTER  
SEA  
CONDUCTIVITY  
SPECTROSCOPY

EWRTA W \_ \_ \_ R

IQTAYUL \_ U \_ \_ I \_ Y

ETLHHA H \_ \_ \_ \_ H

ETEMNSDI S \_ D \_ \_ \_ T

STREUTNNI N \_ TR \_ \_ \_ TS

OPRLHLHLOYC CHL \_ \_ \_ PH \_ LL

TNGOEIRN N \_ \_ R \_ G \_ N

BOACRN C \_ \_ \_ \_ N

SUOHHP SOPR PH \_ S \_ \_ \_ R \_ S

TEONVENIMNR E \_ V \_ \_ \_ N \_ \_ \_ T

NSSAAYLI AN \_ LY \_ \_ S

MPASEL S \_ \_ P \_ \_

IRTDYUIBT T \_ \_ B \_ D \_ \_ Y

IDINCTTYUCOV CO \_ DU \_ T \_ V \_ \_ Y

ELFRTI F \_ L \_ \_ R

EAS \_ E \_

TEFRLIERPPA F \_ LT \_ R \_ AP \_ \_

CSTROYPPCOS SP \_ \_ TR \_ SC \_ \_ Y



## DR POLLY BUREY



As a child, Polly hoped to be an astronaut so she could explore new environments beyond Earth.

Today, she uses science and engineering to help clean our environment by preventing waste. For example, Polly is looking into easy ways to transform farm and packaging waste into useful items, such as building materials.

I have the same birthday as one of my scientific heroes, Galileo Galilei, who was the first person to look at the moon through a telescope!

# LEARN HOW TO CREATE A SMALL MATERIALS RECOVERY FACILITY (SMRF)

A simple experiment designed by Polly Burey, Jessica Pahl and Matt Flynn

### Materials:

- 1 big plastic tub or storage container
- 1 bag of coloured glass pebbles
- Paper and cardboard scraps
- 1 or 2 plastic bottles and caps
- Metallic materials around the house (steel nails, steel paper clips, metal washers)

### Tools:

- A small magnet tied to the end of a string
- A net or piece of chicken wire
- A large piece of cardboard

### Instructions:

1. Take the plastic tub and put the pebbles, scraps (metallic, paper and cardboard), plastic bottles and the plastic caps together. This mix will represent your yellow bin for recycling.
2. A materials recovery facility has machines that separate waste. But as you know, machines do not have hands or eyes like ours to help them separate materials. So, to mimic these machines you will have to figure out how to separate the materials without using your hands.
3. Your goal is to separate all the glass pebbles from all the other materials in the tub without using your hands. How would you do it?

**Tip 1:** Use the other items (magnets, string and net) to help you separate the glass from the other products.

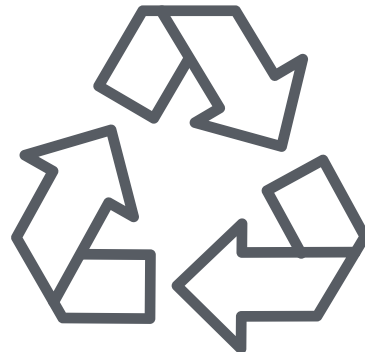
**Tip 2:** Use a large piece of cardboard to fan away light items like paper.

**Tip 3:** Try using water to make some materials float!

### Analysis—what did you find?

You have now done the key activity of separating materials, just like a material recovery facility. I bet that was a lot of work—can you imagine how hard robots or machines have to work to do the same job with tonnes and tonnes of waste material?

For a better understanding of how materials recovery facilities (MRF) work, check out [https://www.youtube.com/watch?v=g\\_ajkE77Nik&t=37s](https://www.youtube.com/watch?v=g_ajkE77Nik&t=37s).



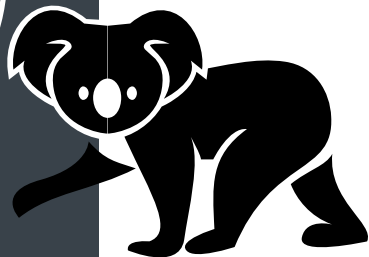
# DR JOSIE CARWARDINE



Josie always knew she wanted to help animals.

She thought of becoming a vet or a park ranger, but now fulfills her dream as an environmental scientist. Josie shares information about native plants and animals so people can better protect nature.

When I was a kid, I raised money to save koalas by doing gardening and selling raffle tickets.



## SPOT THE 10 DIFFERENCES



# HUNTER COMYN

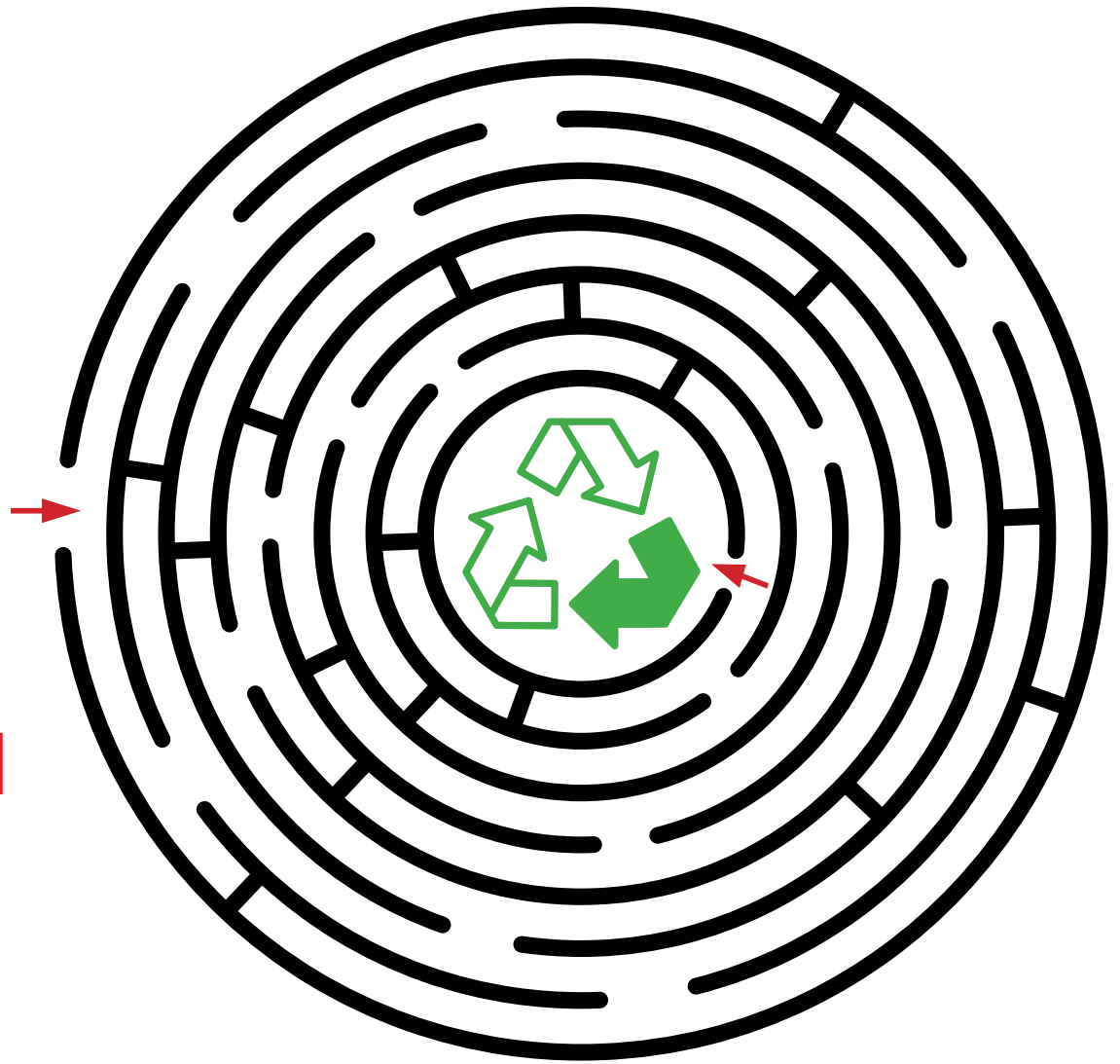


Hunter is a creative person that enjoys writing stories and playing fantasy games with friends in his spare time.

In real life, he teaches others how to re-use electronic waste from computers and mobile phones. Hunter's work reduces the amount of rubbish thrown out, contributing to a circular economy.

My job helps both the environment and other people.

## CAN YOU FIND THE WAY TO RECYCLE ELECTRONIC WASTE?



# DR AMIE ANASTASI



Amie studies the impact of people on the environment and how we can reduce that impact.

Her job gives her the chance to visit many beautiful places and help protect nature. When she is not doing research, you can find her teaching at a university.

I love animals and always name my pets after the characters in my favourite TV shows!

## FIND THE 15 ITEMS THAT DON'T BELONG AND COLOUR IN



# DR ANDREW CHIN

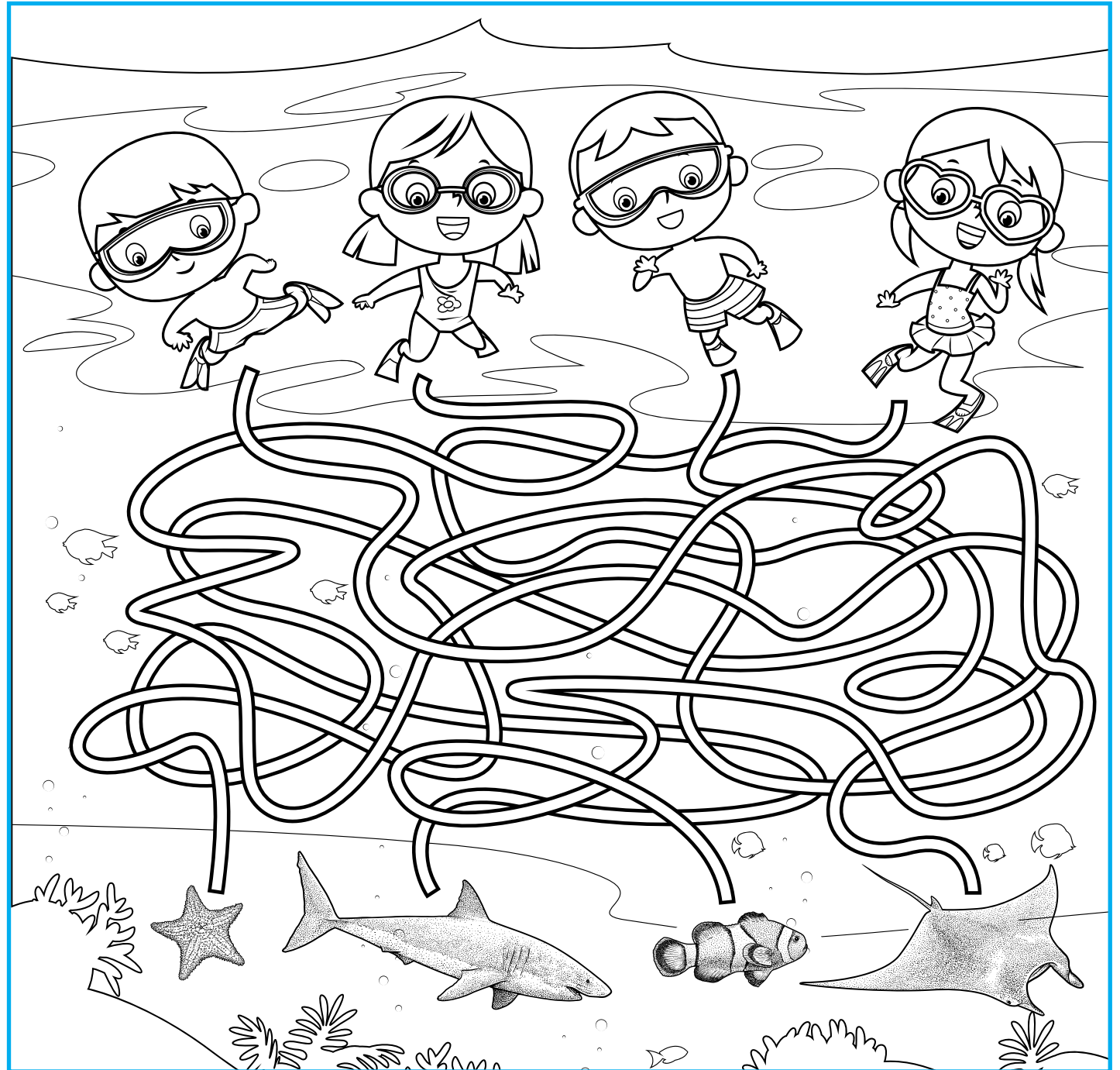


Andrew has always been fascinated by sharks. His passion for marine science has led him to work in the Great Barrier Reef protecting sharks and rays.

Andrew's research helps to understand the importance of looking after sea creatures and their homes.

I love my work as I'm always learning new things, working with animals, and travelling.

# WHICH SEA CREATURE IS MINE?



# DR JAKE WHITEHEAD



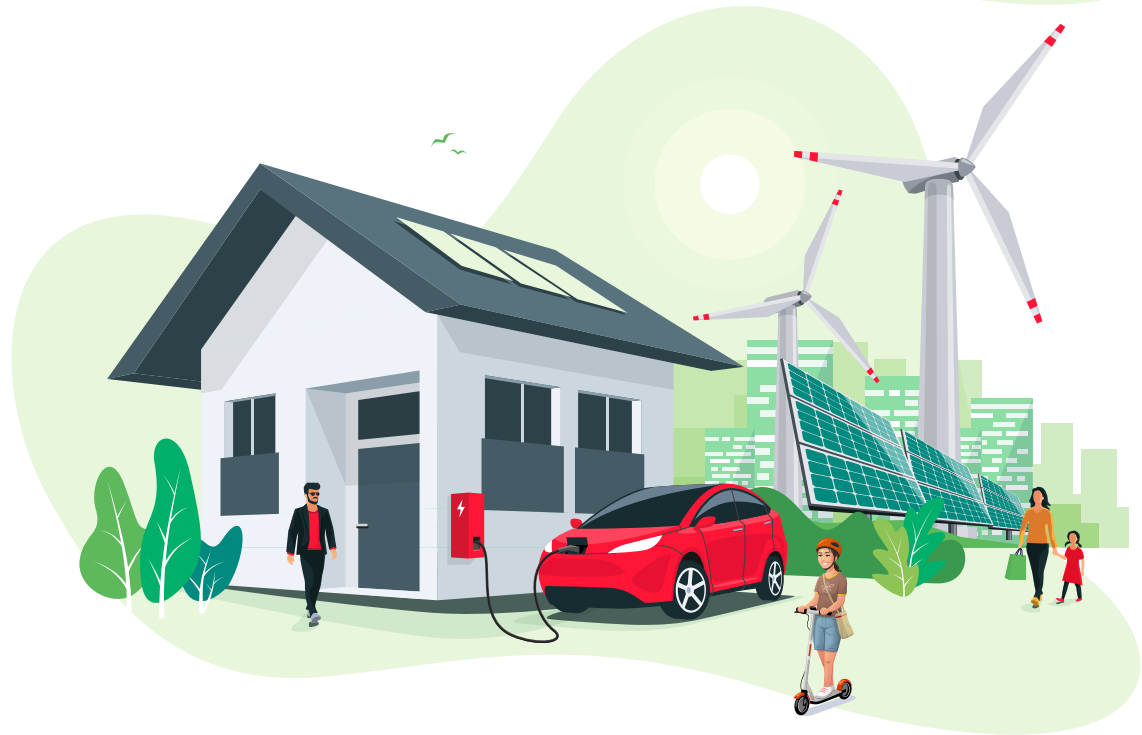
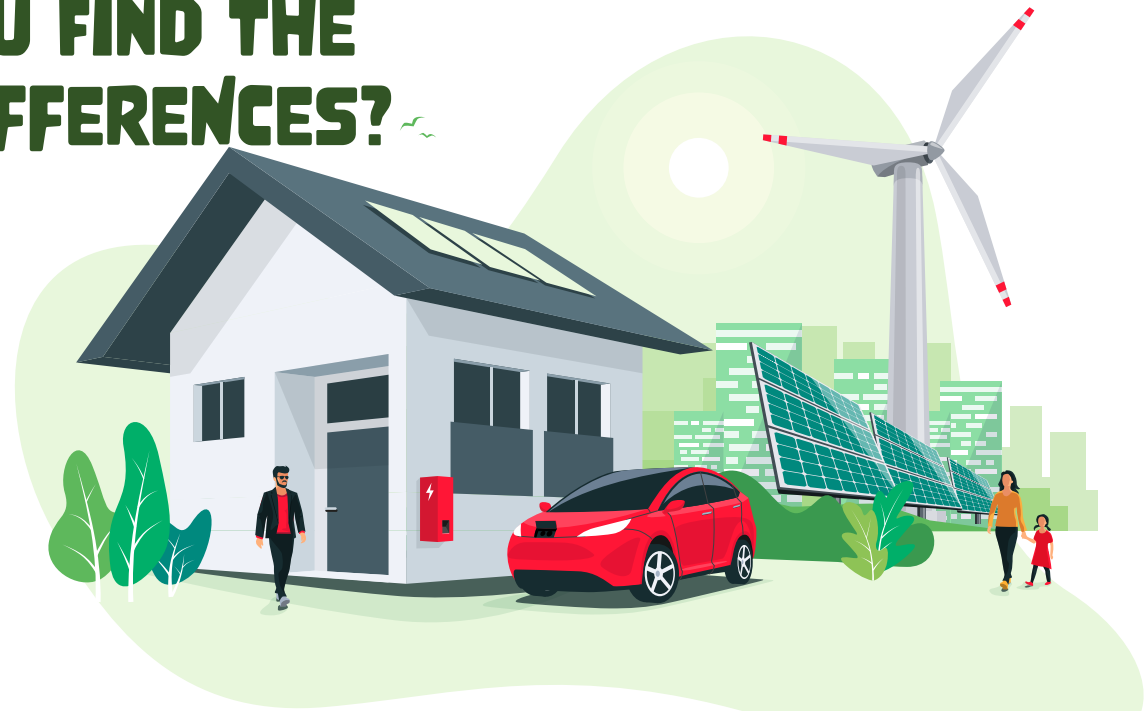
Jake works to get rid of air pollution by increasing the number of electric cars on our roads.

He loves being a scientist using new and exciting technologies to make more environmentally friendly transport systems.



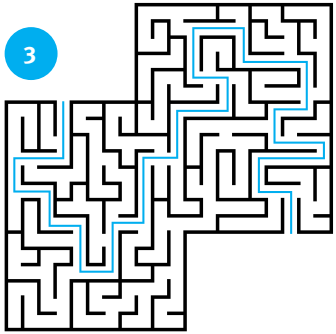
I've always wanted to work with governments to help make a change towards a healthy planet.

## CAN YOU FIND THE FIVE DIFFERENCES?



# ANSWERS

3



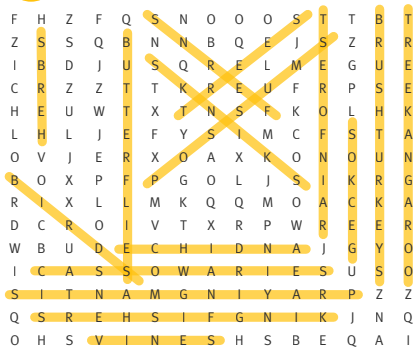
4



8

A. 6 B. 5 C. 4 D. 4 E. 4 F. 3 G. 4  
Combined sites: C and E

10



12

### ACROSS

- 2 SUCCULENT
- 4 WORMS
- 5 HABITAT
- 6 ECOSYSTEM
- 7 FLOWERS
- 10 BEAUTY

### DOWN

- 1 BUTTERFLIES
- 3 CREEPER
- 8 SOIL
- 9 BEES

13



16

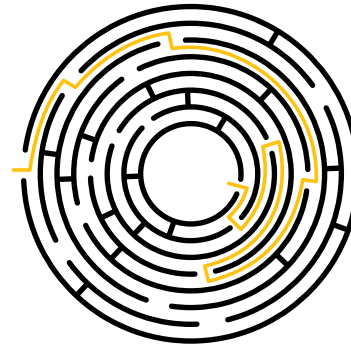
- WATER
- QUALITY
- HEALTH
- SEDIMENT
- NUTRIENTS
- CHLOROPHYLL
- NITROGEN
- CARGON
- PHOSPHORUS

- ENVIRONMENT
- ANALYSIS
- SAMPLE
- TURBIDITY
- CONDUCTIVITY
- FILTER
- SEA
- FILTER PAPER
- SPECTROSCOPY

18



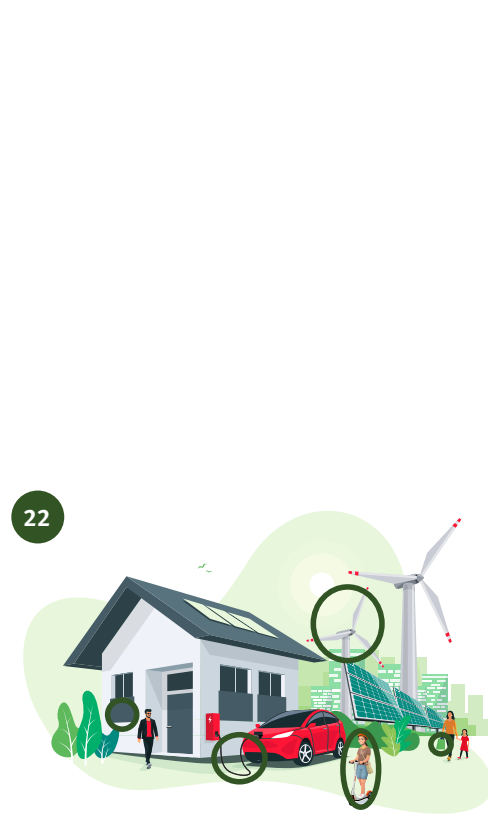
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