

 NATIONAL
GEOGRAPHIC

WE QUIZ
DR KARL!



KIDS

AMAZING
ANIMAL
LOLZ

Do creatures have a
sense of humour?

IT'S THE YEAR
OF THE RAT!

MAKE THESE
TASTY COOKIES



8

BIZARRE
BEACH
FACTS



EPIC
SCIENCE
FAILS!



Kiwi kids being denied the right to hear and learn.

Help us to buy 50 pairs of hearing aids with remote microphones.

Before Sophie was diagnosed with Auditory Processing Disorder (APD) we had been noticing small things. Small, but significant. For example, she would become anxious when in a noisy crowd. At birthday parties she would sometime put her hands over her ears and ask to go home early.

It was also difficult to distract her when she watched TV. She would fall asleep in the car on the way home from school. On several occasions she became teary before school as she worried about what was expected of her in class. I also noticed when I visited the school that she played by herself - happily enough - but regardless, on her own. She was also having a lot of trouble with reading and writing and spelling. We thought this was a phase and that maybe we were expecting too much of her. We were so very lucky to have a teacher that picked up her APD.

Once the hearing aids were in place and we had the system working properly, Sophie began immediately to flourish.

We are fundraising to support 50 kids in New Zealand that come from families that cannot afford to buy the hearing equipment they desperately need to lead a happy life and flourish, like Sophie did.



Sophie

Please donate via

Direct Credit: **ASB 12-3011-0519936-00** Reference: **Apd**

www.givealittle.co.nz [search The National Foundation for the Deaf]

Find out more at **nfd.org.nz/supportourwork** or email **enquiries@nfd.org.nz**
or call **0800 867 446, +64 09 307 2922**

Please accept my donation of \$50, \$25, \$20, \$10 Other \$

☐ I enclose my cheque made payable to The National Foundation for the Deaf Inc.

☐ Visa ☐ Mastercard ☐ Diners ☐ American Express

Credit Card number Expiry /

Full name

Your postal address

Signature

Phone number

Email

Please post to The National Foundation for the Deaf PO Box 37729, Parnell, Auckland, 1152, New Zealand.

Happy New Year!

We hope you all had a spectacular summer break and a super-cool Christmas, and are raring to start this brand new decade! WE sure are! The Chinese New Year of the Rat begins in January, too, so we take a closer look at this much misunderstood mammal. Plus, find out what your birth year might say about you on page 34!

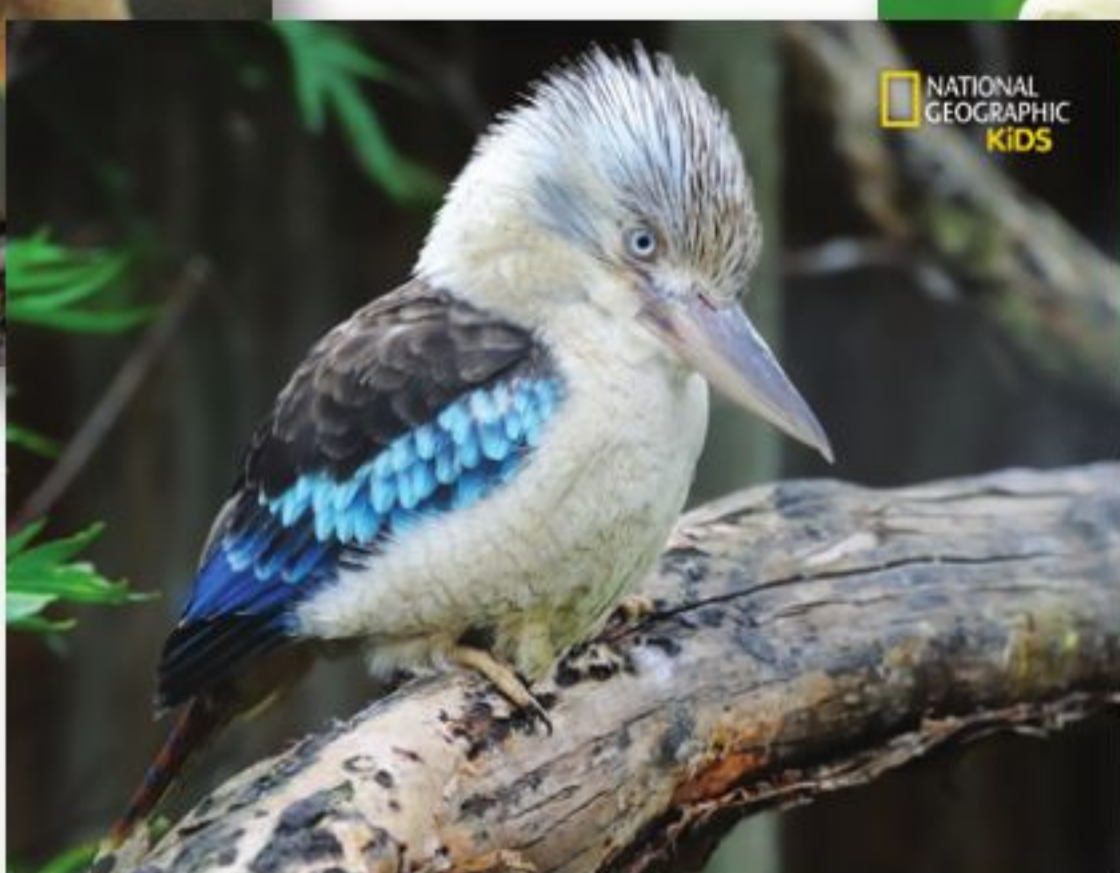
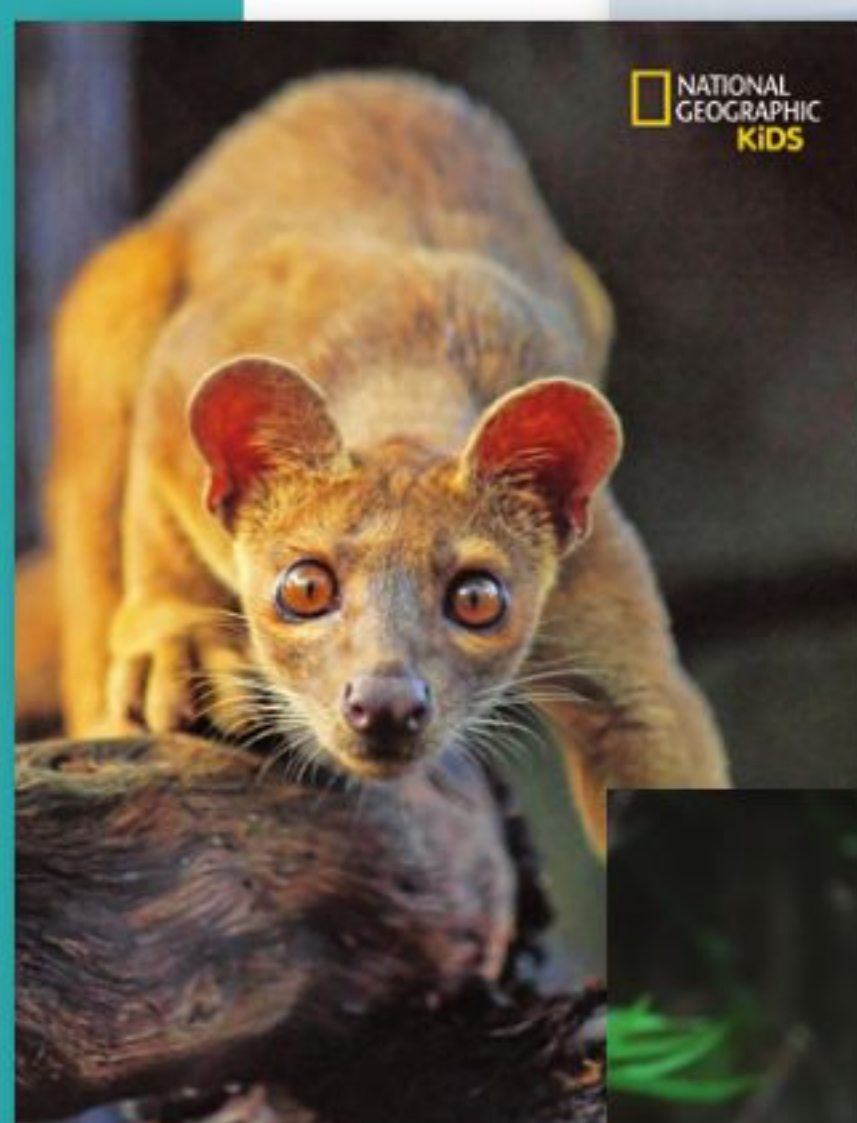


The NGK team!

Ever thought your pet was laughing at you? We explore whether animals are jokers on page 10 – and you can test whether YOU have a sense of humour with the top jokes on pages 16 and 47. Plus, everyone's fave brainbox Dr Karl is back for a chat on page 18. Check it out! Enjoy the issue!

The NG KiDS team

4 WILD POSTERS!



What's inside...

Got a joke? I'm all ears!

10 WHAT'S SO FUNNY?

Do animals have a sense of humour? You decide...



18 THE BIG INTERVIEW

Dr Karl tells us about his amazing life and career!



20 EPIC SCIENCE FAILS

Nat Geo explorers tell us about their embarrassing moments!



Am I nice or gnaw-ty?

22 AWESOME 8

Check out some of the world's most bizarre beaches!



Discover your birth animal on page 34!

30 YEAR OF THE RAT!

To celebrate Chinese New Year, we find out about rats!

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PLUS!

4 Inside Scoop All the latest news and events from across the globe...

6 What's UP? This month's best movies, TV and books!

8 Big Picture A hare-y moment!

17 World Wonders Comic NEW SERIES! Max hangs out with Moko the whale-rescuing dolphin!

24 Global Story Club A girl makes a new pal on a dreaded camping trip!

29 History's Greatest Hits All about slave-rescuer Harriet Tubman!

38 Junior Explorers' Club Readers tell us what they've been up to!

42 Fun Stuff! Heaps of top puzzles!

46 Make It! Bake some sweet rat cookies!

47 Puzzle Answers Oi, no cheating! There are some jokes here, too!

48 Weird But True More outrageous facts!

49 Guinness World Records! A sheep soldier and crazy car-flips!

50 Wacky World! The planet's strangest pictures!

INSIDE SCOOP

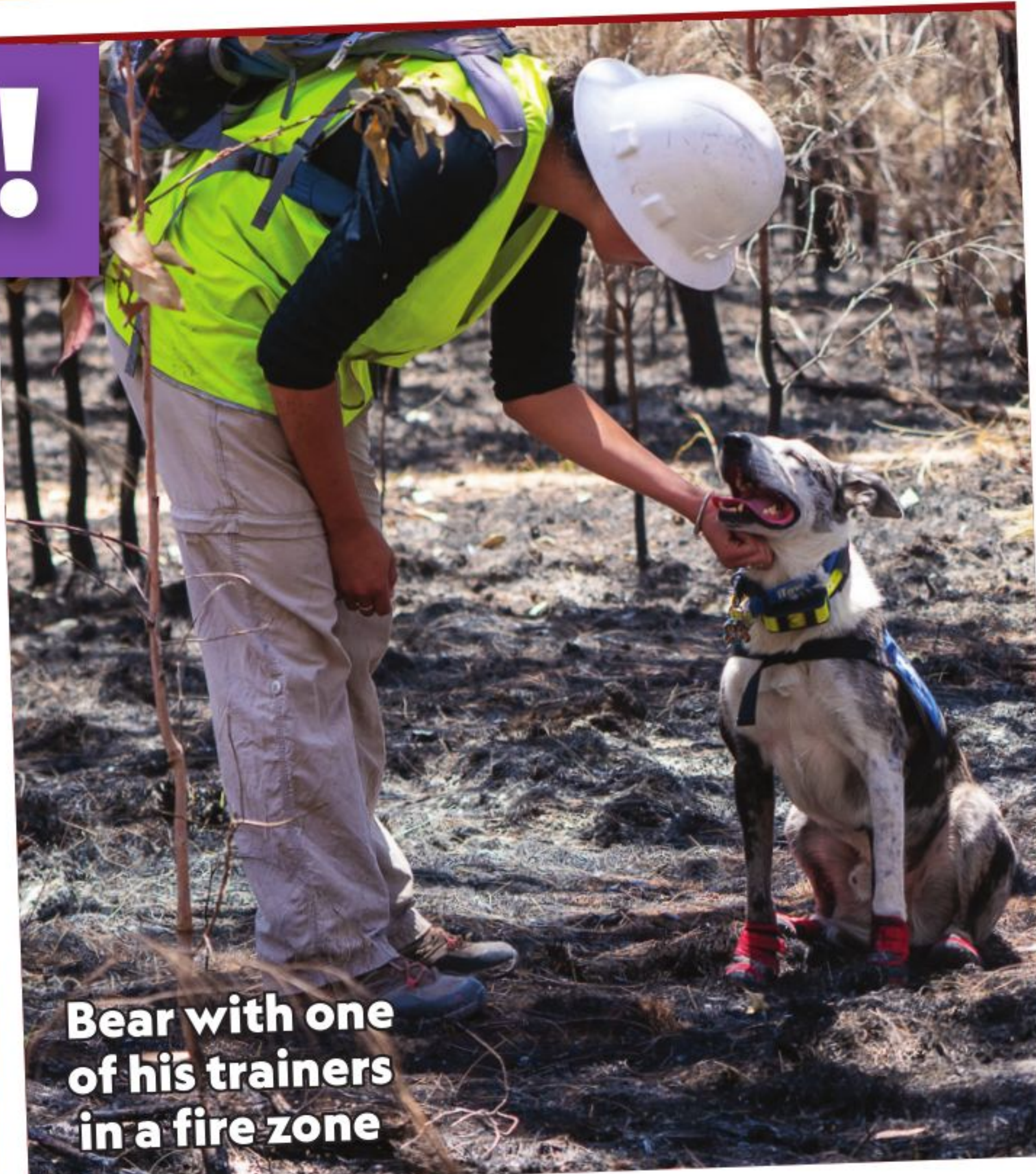
The latest news from around the globe...

Dog saves koalas!

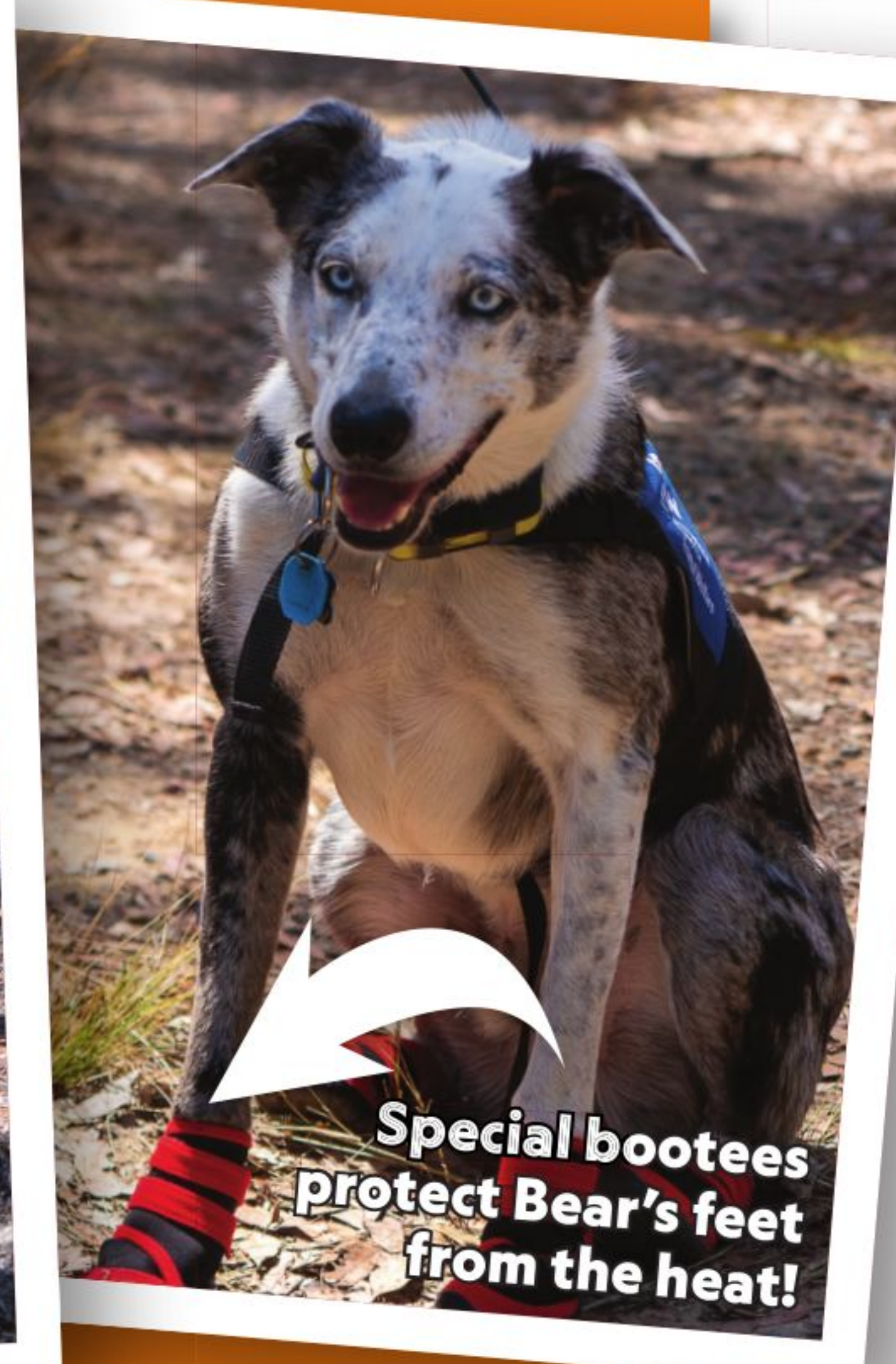


Meet **Bear** the **detection dog**! This six-year-old **border collie / koolie cross** has been helping to save **koalas** caught up in Australia's **terrible bush fires** by **alerting humans** to their presence. Trained by **Detection Dogs for Conservation**, clever Bear has been taught to recognise the **scent of koalas' fur** so he can sniff them out – and when he does, he's rewarded with his **favourite ball toy**!

Bear was chosen for the job because he has lots of **energy**, is **super focussed** and, most importantly, **won't attack** koalas or other wildlife! Since passing his training, Bear has located many displaced, sick, orphaned and injured koalas and **quolls** in the wild, but this is the first time he's worked in **fire zones**. Go, Bear!



Bear with one of his trainers in a fire zone



Special booties protect Bear's feet from the heat!

Check out this bald bunch of superhero school kids!



GET INVOLVED!

The World's Greatest Shave



If your **New Year's resolution** for 2020 is to do more for good causes, maybe you could sign up for **The World's Greatest Shave**! Get **sponsored** to remove **ALL** your lovely locks and raise money for people with **blood cancer**! Why shave? Well, a **side effect** of some cancer treatments is **losing your hair** – so walking around with a shaved head will **help you think about** what life might be like for someone who has gone through that **physical change**. Plus, the money you make will help thousands of families affected by blood cancer. Go on, shave the world!

● For more info, or to get your school to sign up, head to worldsgreatestshave.com The 2020 campaign runs from 11 March to 15 March.



If you don't want to shave your hair, you could dye it instead!

3 FAST FACTS!

Chinese New Year

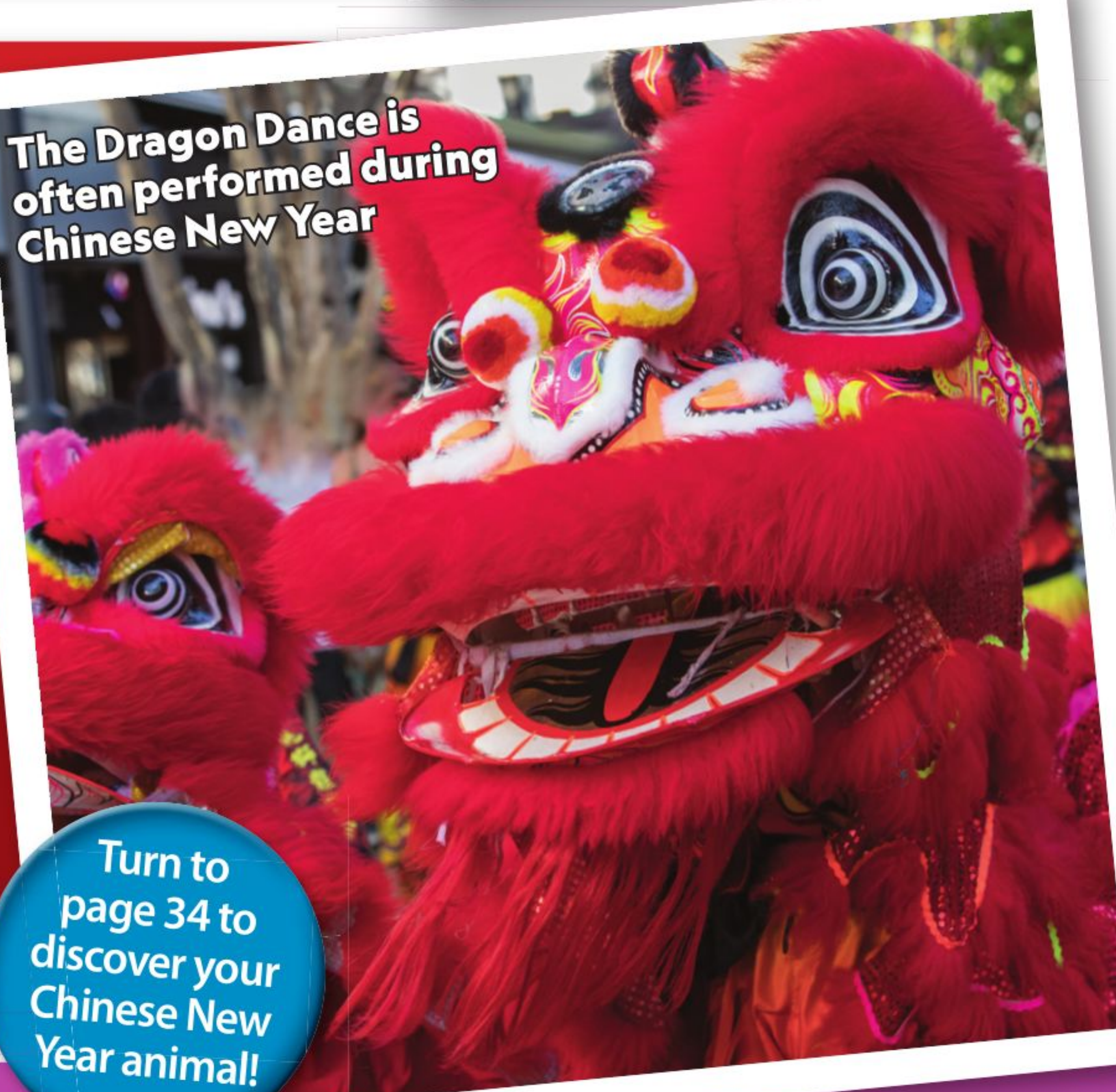
People all over the world will celebrate **Chinese New Year** on **25 January**, welcoming in the **Year of the Rat**.

1 Chinese New Year takes place on the first **new moon of the year** (25 January in 2020), and ushers in the beginning of spring. Also called the **Spring Festival**, it lasts for **15 days** until the **full moon**. A **Lantern Festival** takes place on the final day!

2 The colour red symbolises **good luck** in China, so it plays a very important part in the festivities. **Red clothes** are worn, streets and homes are covered in red **decorations**, and children are given **money** in **red envelopes**. Nice!

3 In the lead up to the celebrations, all homes are cleaned to get rid of **hui qi**, which are unlucky thoughts that have collected over the past year. Then, at **midnight**, all the doors and windows in houses are opened to allow the **old year** to leave.

The Dragon Dance is often performed during Chinese New Year



Turn to page 34 to discover your Chinese New Year animal!

Awesome essay comp!



Do you **love writing**? Are you passionate about **climate change**? Then you should totally enter the **Queen's Commonwealth Essay Competition 2020**! This year's theme, '**Climate Action in the Commonwealth**', encourages young writers from across the globe to explore this vital issue, with the **winner** and **runner-up** in the **Junior Category** being taken to **London, England**, for a **special awards ceremony**! Established way back in **1883**, the Queen's Commonwealth Essay Competition is the world's oldest writing comp for schools. So get entering and be part of history!

● Enter by **30 June 2020**. For more info, head to thercs.org/competition

GET INVOLVED!



Camilla, Duchess of Cornwall, launches the comp in New Zealand

MAKE IT A DATE

What's going on this month?



FEB 2

World Wetlands Day

Celebrate the world's watery lands!



FEB 11

Day of Women and Girls in Science

A day to get more girls into science subjects!



FEB 14

Valentine's Day

Will you give a secret card today?

Could speakers rescue reefs?



A team of **scientists** working on the **Great Barrier Reef** are attracting fish back to damaged coral using **underwater loudspeakers**! And, no, they're not playing **The Little Mermaid** soundtrack! Instead, they're playing the **sounds of healthy coral**.

"Young fish listen out for the pops, buzzes, whistles and crackles of healthy coral, then swim towards it," explains project leader, **Tim Gordan**. "But on degraded coral reefs the animals that make those sounds are dead, so the **reefs get quieter** and **less attractive to fish**."

Tim's team found that when they broadcast **healthy reef sounds**, **twice** as many fish were attracted to degraded coral. "Boosting fish populations in this way could help to **kick-start natural recovery** processes on many coral reefs around the world," he says. Hooray!



"Here, fishy fishy!"
Tim sets up the special speakers!

FEB 15 - MAR 3



CRAZY EVENT

Fête du Citron

Each February, **Menton**, in the **South of France** holds the world's fruitiest festival – **Fête du Citron** or **Lemon Festival**.

The quiet coastal town bursts into life as nearly **250,000 people** arrive to celebrate all things citrus. Towering **10m-tall statues** are built in the town's **Biovès Gardens**, which start life as metal skeletons before being completely covered with **lemons** and **oranges**! Smaller statues are paraded through town, with entertainers, brass bands and folk groups dancing between the floats.

Each festival has a different theme – this year will celebrate **festivals of the world**. None of the fab fruit is wasted, though, as it's all sold off afterwards at bargain prices. What a great way to get your **vitamin C**!

FEB 17 - 18



Bowl-A-Rama

Bondi Beach's big skate comp is on for two days this year!

FEB 20



World Day of Social Justice

Let's tackle poverty, inequality and promote fairness for all!

WHAT'S UP?

Films and books to get excited about this month...



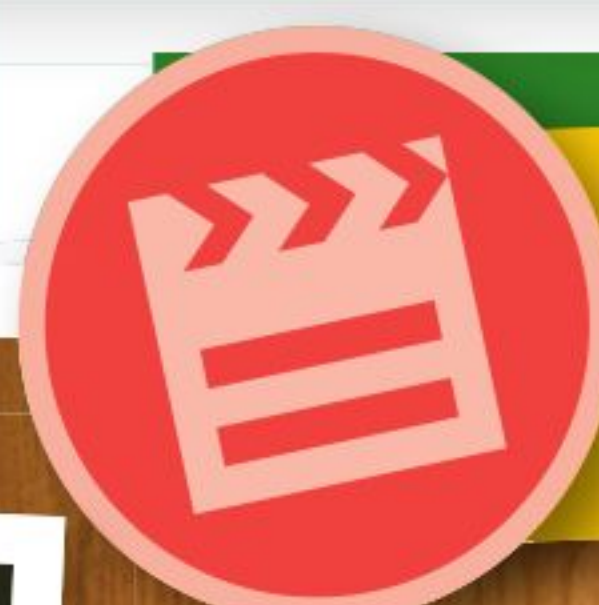
Dorothy and the Wizard of Oz

Click your heels three times and prepare to be transported to the **magical land of Oz**, with all-new episodes of the **fun fantasy series** featuring **Dorothy** and her strange friends. Expect adventure, mischief and creepy witches!

● 10am at weekends on Boomerang from 11 January



It's Dorothy and her potty pals!



My Spy



Sophie has JJ wrapped around her little finger!



Dolittle

Vet **Dr John Dolittle** has a surprisingly **wild skill** – he can **talk to animals**! Living alone in a fancy home in 19th-century England, Dr Dolittle's only friends are a group of **exotic animals**, including a **gorilla**, a **giraffe** and his most trusted advisor, a headstrong **parrot**!

But when young **Queen Victoria** becomes gravely ill, the doctor and his furry friends spring into action, setting sail in search of a **mythical island** where they hope to find a **cure**.

Dealing with **old enemies** who want to stop him and some amazing, scary creatures along the way, will the doctor find the cure and save the Queen?

● In cinemas 9 January



The good doctor and friends take to the seas!



When **secret agent JJ** is sent to **spy** on a **family flat**, all the hench hero has to do is **stay hidden**, and then he can get back to doing what he does best – blowing things up and **catching bad guys**.

But things get complicated when **nine-year-old Sophie** discovers one of his **secret cameras**. She agrees to keep the whole thing **hushed up** – as long as he **teaches her the tricks of the spy trade**!

● In cinemas 9 January



The Biggest Little Farm

City slickers **John** and **Molly** move to the **country** to set up a **farm**, and they want their new home to be in **perfect harmony** with **nature**. But they soon find themselves up against **hungry snails**, **mischievous moles**, **fruit-munching pests** and **perilous wildfires**!

With stunning **cinematography** and heaps of **cute animals**, this uplifting **documentary** will make you appreciate the **wonders of nature**. Aww-some!

● In cinemas 16 January



What a pretty piggy!



Prepare for cuteness overload!



Bees are vital to farms!

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Enter ALL comps at
natgeokids.com

KEY



Show



Movie



DVD



App



Book



TV

STAR CHAT

We chat to **Chloe Coleman**, star of hilarious and heart-warming action-comedy *My Spy*...

CHLOE COLEMAN

Hi Chloe, did you learn any real-life spy skills on set?

Yes, I learnt to be **very quiet** and **stealthy**. If I noticed people swearing on set, I'd **jump out on them** and make them **put money** in my swear jar!

What did you use the money for?

At the time, the **Amazon rainforest fires** were happening, so I donated the money I raised to the **Rainforest Alliance**. I feel really strongly about **climate change**.

Brilliant! If you were a real-life spy, who would you most like to spy on?

I'd like to spy on **social media sites** like **Instagram**, **Twitter** and **TikTok**. I wonder what information they are grabbing from all the account users. And I'd like to know **what they know about us!**

If somebody spied on you, what would you be most embarrassed by?

I think I'd be embarrassed if somebody found out my **love interest!** I wouldn't want people knowing who I have a crush on. I'm not saying that I do have a crush, though...

Haha! Your character Sophie is really resourceful and good with technology. What are your special skills?

I'm actually a **lot like Sophie!** My co-star **Dave Bautista** bought me a **computer** for my birthday and I'm constantly **editing** on it and making **animations**.

Did filming *My Spy* teach you anything new about acting in action scenes?

Dave taught me that you have to be **very intense** when doing **stunts**. It's pretty **safe on set** but you can make it feel believable by having intensity in your whole body and **scrunching up your face**.

Amazing! So what else can we see you in?

I've been filming an **action film** in **Berlin, Germany**, a **comedy TV series** and I'm also going to be in *Avatar 2*!

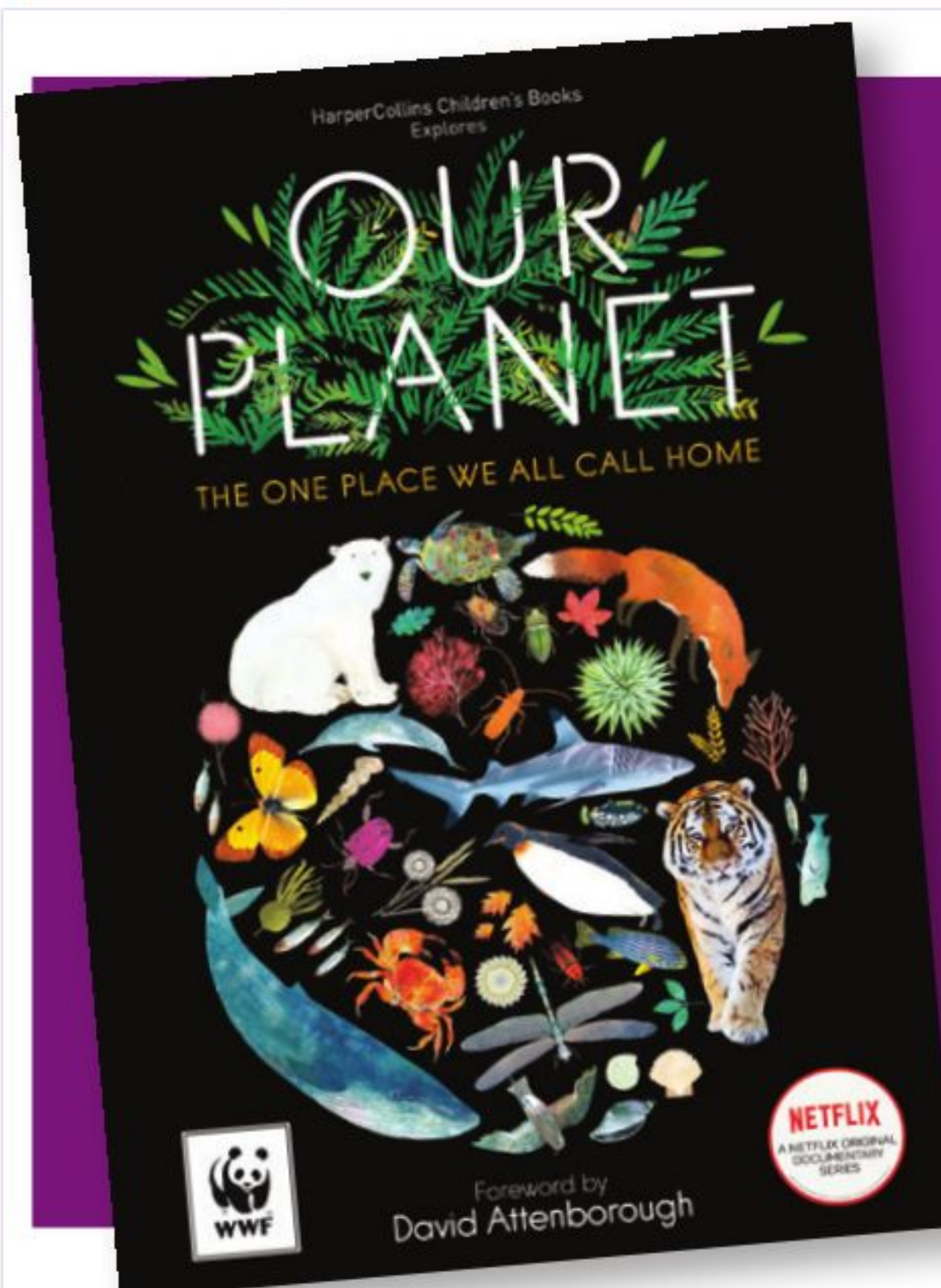
Wow! Looks like you have some really exciting projects on the way. Thanks Chloe!



Book Reviews

The Fate of Fausto *Oliver Jeffers*

This short but **beautifully illustrated** book tells the tale of an **angry little man** who believes he **owns everything** and sets out to survey what's his. A **flower**, a **sheep** and even a **mountain** all bow before him. But that's not enough for **greedy Fausto**, and so he conquers a **boat** and sets out to sea...



Our Planet: The One Place We All Call Home *Matt Whyman and Richard Jones*

Have you been enjoying the spectacular *Our Planet* documentary series on **Netflix**? Well this awesome and **inspiring** kids' book combines **extraordinary photography** from the show with **stunning illustrations!** Journey through **icy landscapes**, **dense jungles** and **endless oceans**, and find out how **human habitats interconnect** with the **plants** and **creatures** living there, too. Best of all, this brilliant book includes a foreword by **Sir David Attenborough** himself!

Monster Nanny

Tuutikki Tolonen, illustrated by Pasi Pitkanen

When **Mimi's parents** go off on their holidays, a new **nanny** is sent to take care of her and her siblings. The only problem is, their nanny is a **monster!** **Grah** is **massive** and **hairy**, and **grunts** instead of talking – but luckily he's quite **kind**, too. The trio soon learn that **other neighbourhood kids** have been left with monsters as well. So where did they all come from? With no parents around, they must depend on each other to **solve the mystery of the monsters**. This is one **sweet, silly** story!



Series creator **Justine Flynn** wrote *The Unlisted* to **encourage kids** to be more wary of **technology** and the **influence** it has on their lives.

The Unlisted book series *Justine Flynn and Chris Kunz*

Twins **Dru** and **Kal Sharma** discover that a sinister organisation called **Infinity Group** is **controlling the minds and bodies** of the world's **teenagers**, and they join a group of **vigilante teens** known as **The Unlisted** on a mission to uncover the truth! Can they stop them?! With all **three thrilling books** based on the hit **ABC series**, get ready for a wild ride!

WIN! Five winners will grab all of these books! Head to natgeokids.com/au to answer this question...

Q *Monster Nanny* is written by a Finnish author. What is the capital of Finland? **a)** Helsinki **b)** Copenhagen **c)** Reykjavík

Enter by
27 Feb!

THE

BIG PICTURE

NAT GEO KIDS'
image of the month





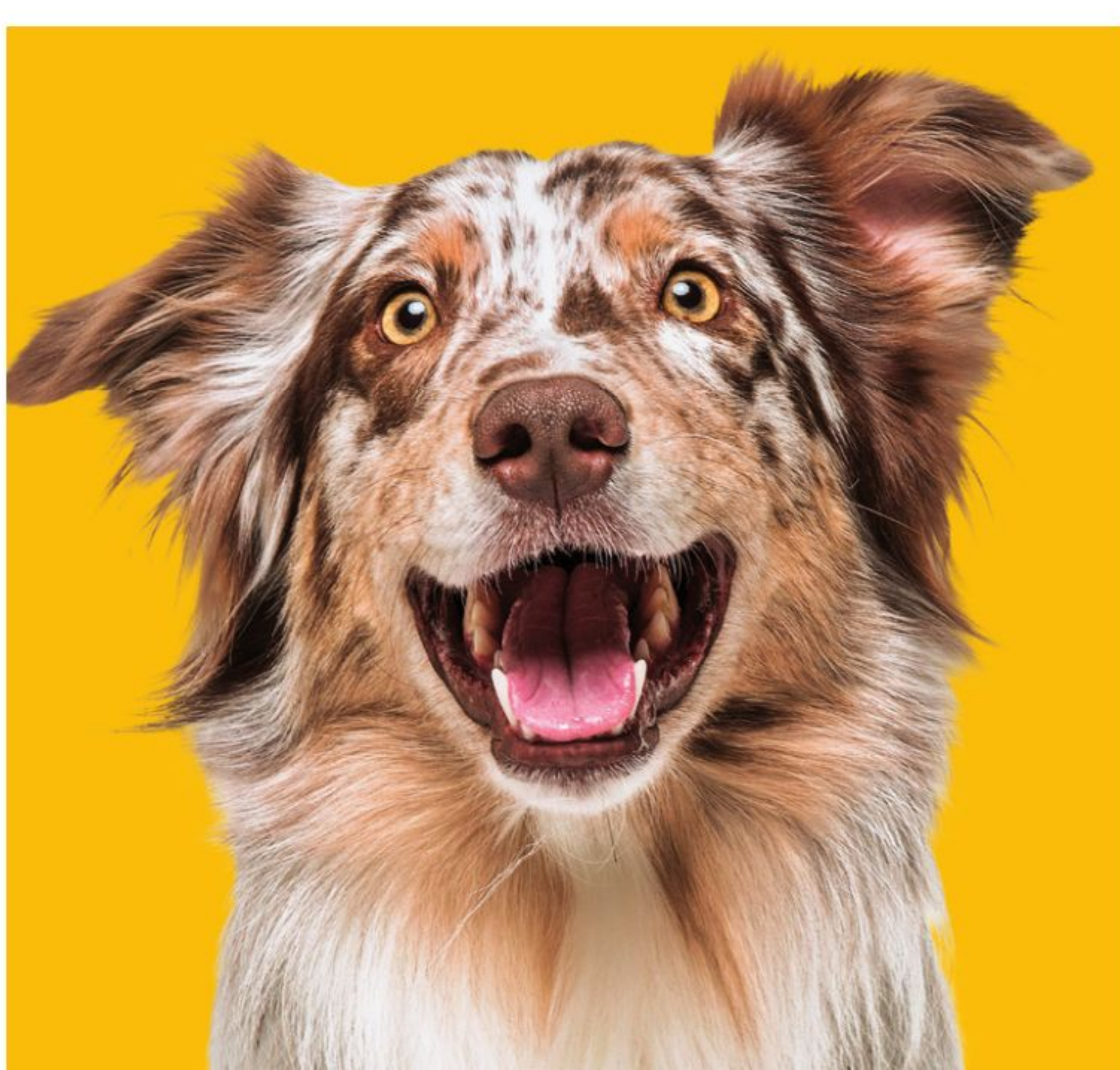
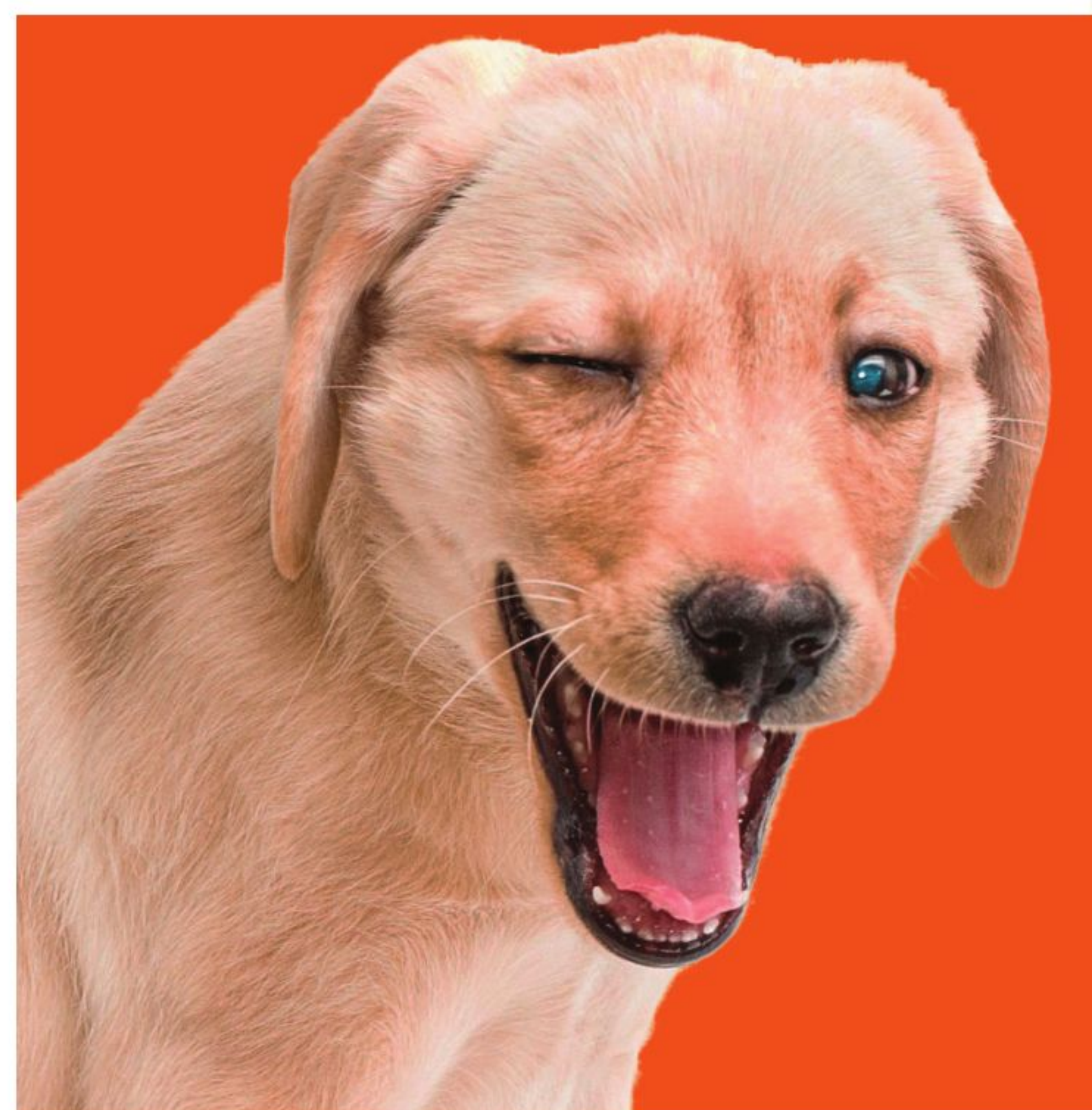
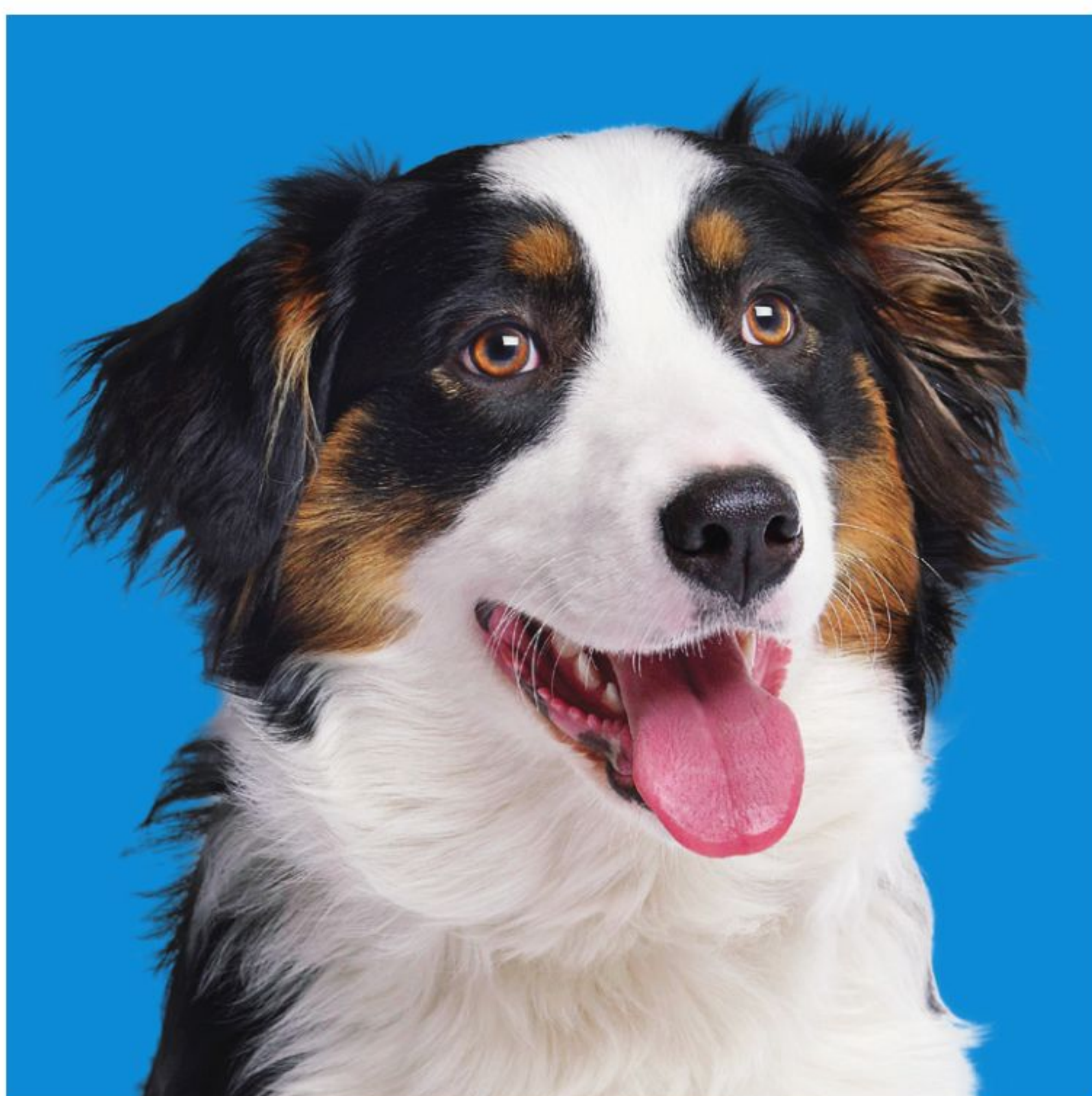
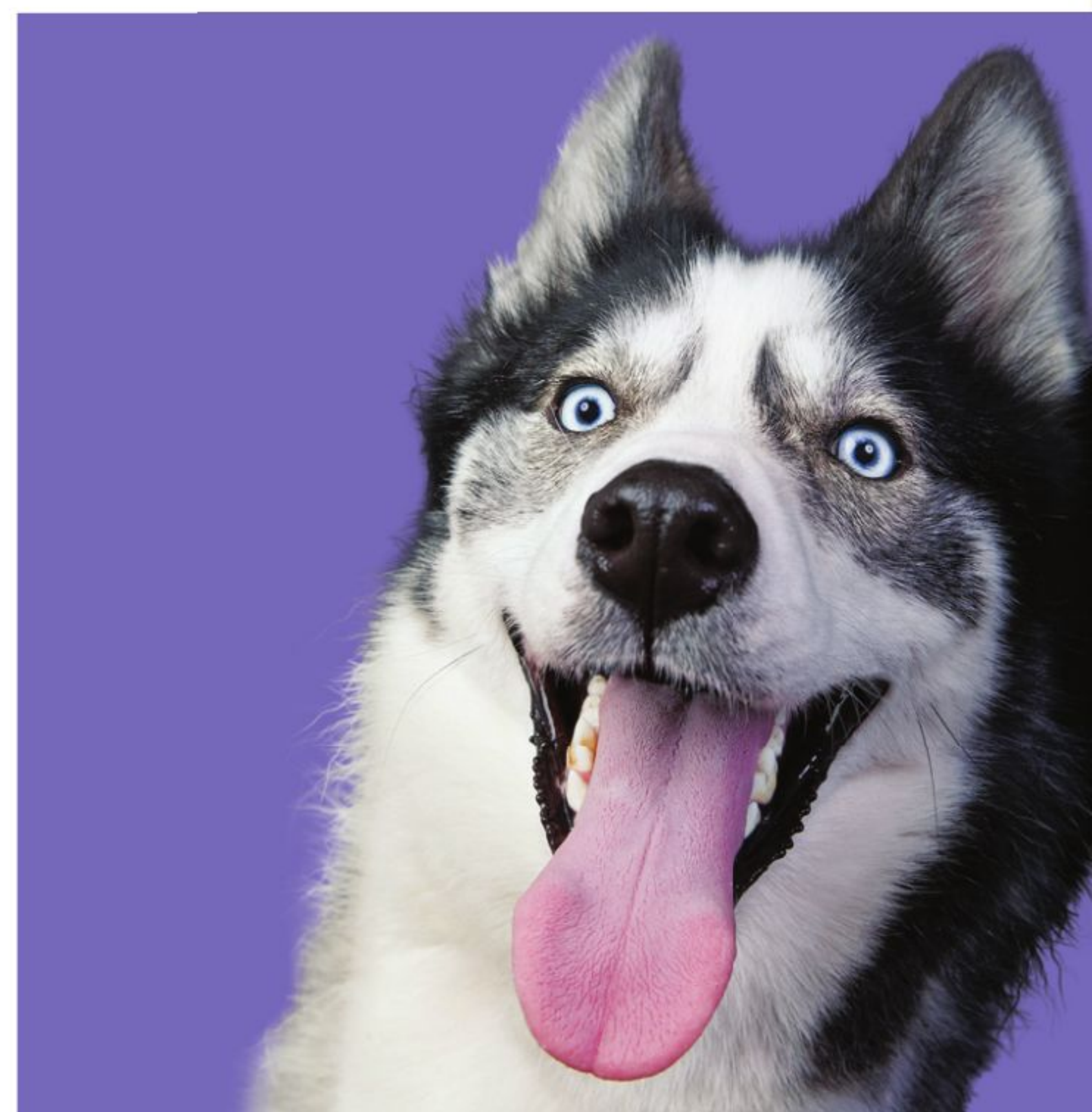
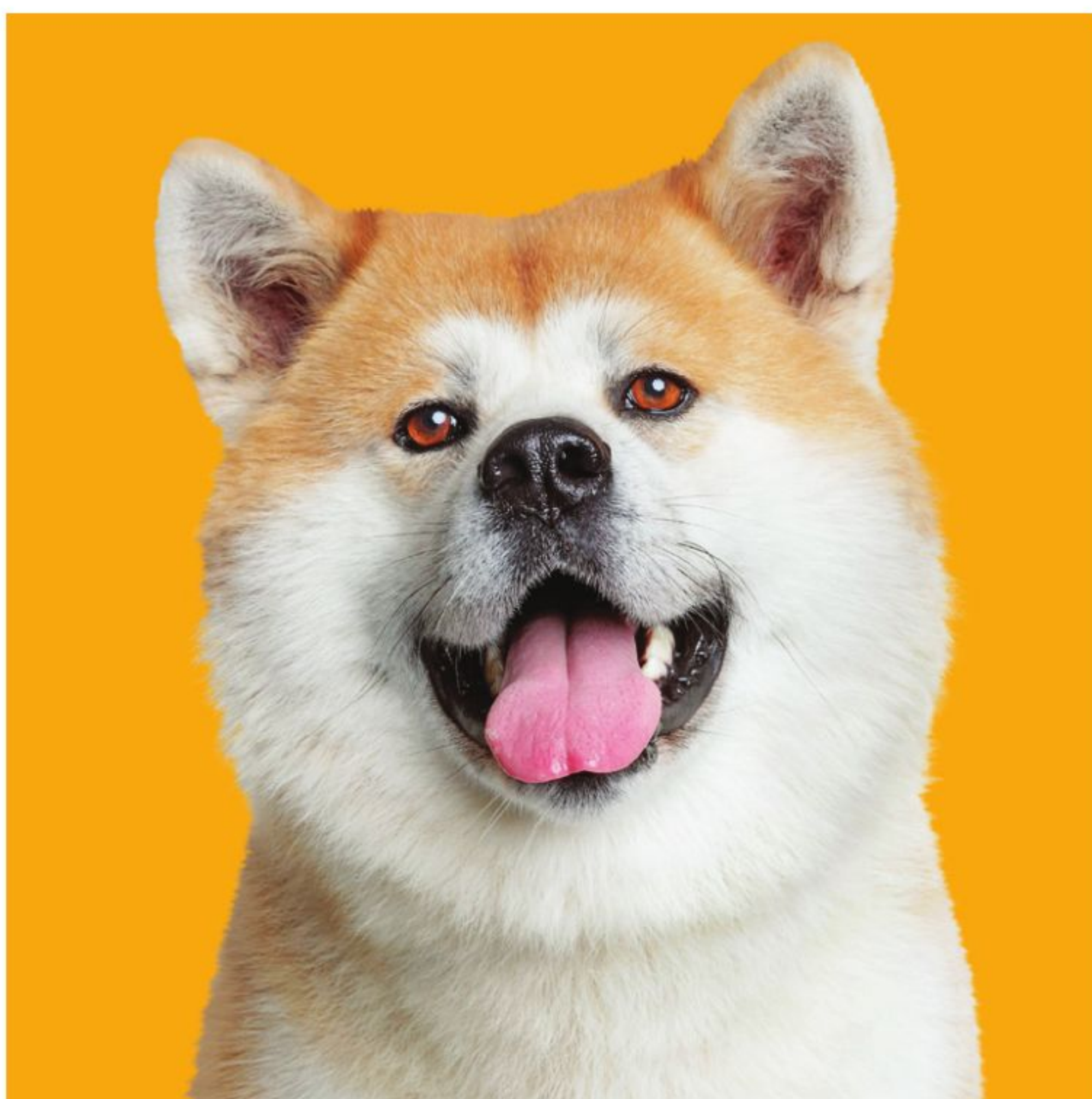
Furry fight!



Hungarian photographer **Csaba Daróczy** took this spectacular picture one morning in 2018 after he'd spotted a **colony of rabbits** near the village of **Bócsa** in **Hungary**. "I noticed them **jumping high** in the air, especially when they were **fighting over food**," he says.

Csaba was so mesmerised by the rabbits that he returned to the field more than **70 times** that year, taking thousands of photographs of the acrobatic animals. "I guess I took a few good ones," he says. Er, yes! This black and white picture won Csaba the **2019 Nature Photographer of the Year** competition – so **perseverance** clearly pays off!

● To view all the winners and runners-up, leap over to [naturephotographeroftheyear.com](https://www.naturephotographeroftheyear.com)



WHAT'S SO FUNNY?

Seven cool stories about animals' sense of humour...

Do you ever feel like your **dog** is **laughing** at you? Well, research suggests **maybe it is!** When they're inviting another **animal** or **person** to **play**, dogs make **huffing noises**, which scientists think is a kind of **doggy laughter**. They make the same sound when **tossing a toy** around by themselves!

Gorillas, orangutans and **rats** are among other animals that are known to laugh. But does a chihuahua chuckling mean it has a **sense of humour**? No one knows for sure, but researchers are working to answer the question. Check out these **seven stories** and **decide for yourself** whether animals' antics mean they find things funny...

1

CHEEKY FOXES

Can a **1kg ball of fluff** play a **practical joke**? Well, **fennec fox** keepers at the **Endangered Wolf Center** in **Missouri, USA**, think so. They've been **tricked** many times by a pair of fennec foxes called **Fezz** and **Daisy**.

The keepers wear **treat pouches** on the backs of their belts so they can give the animals snacks at the end of the day.

But the foxes **don't like waiting**.

"Daisy distracts us by doing a play bow," says **Regina Mossotti**, who works with the foxes. "Her front legs go down, her butt lifts in the air and she wags her tail super fast."

Then, while the keepers are **distracted** by Daisy, Fezz swoops in and **swipes a pouch**.

"They've **fooled us** a few times," admits Regina. "Once Fezz gets away, he always turns around and looks like he's grinning – as if to say 'Ha! We got you!'" Outfoxed again.



2

SILLY SQUAWKER

Bongo Marie, an **African grey parrot**, was always picking on another parrot named **Paco**. One night, parrot owner and behaviour expert **Sally Blanchard** was cooking a roast dinner at their home in **Colorado, USA**. She was about to carve up the cooked chicken, when Bongo Marie hopped onto a worktop nearby and shrieked “**Oh no, Paco!**” before tossing her head back and **laughing!**

“That’s not Paco,” laughed Sally, showing Bongo Marie that Paco was in the next room. “Oh... no,” repeated Bongo Marie, this time sounding **disappointed** before chuckling again.

“I’m convinced she knew she was being funny,” Sally says. “It was like she was **laughing at her own joke.**”



3

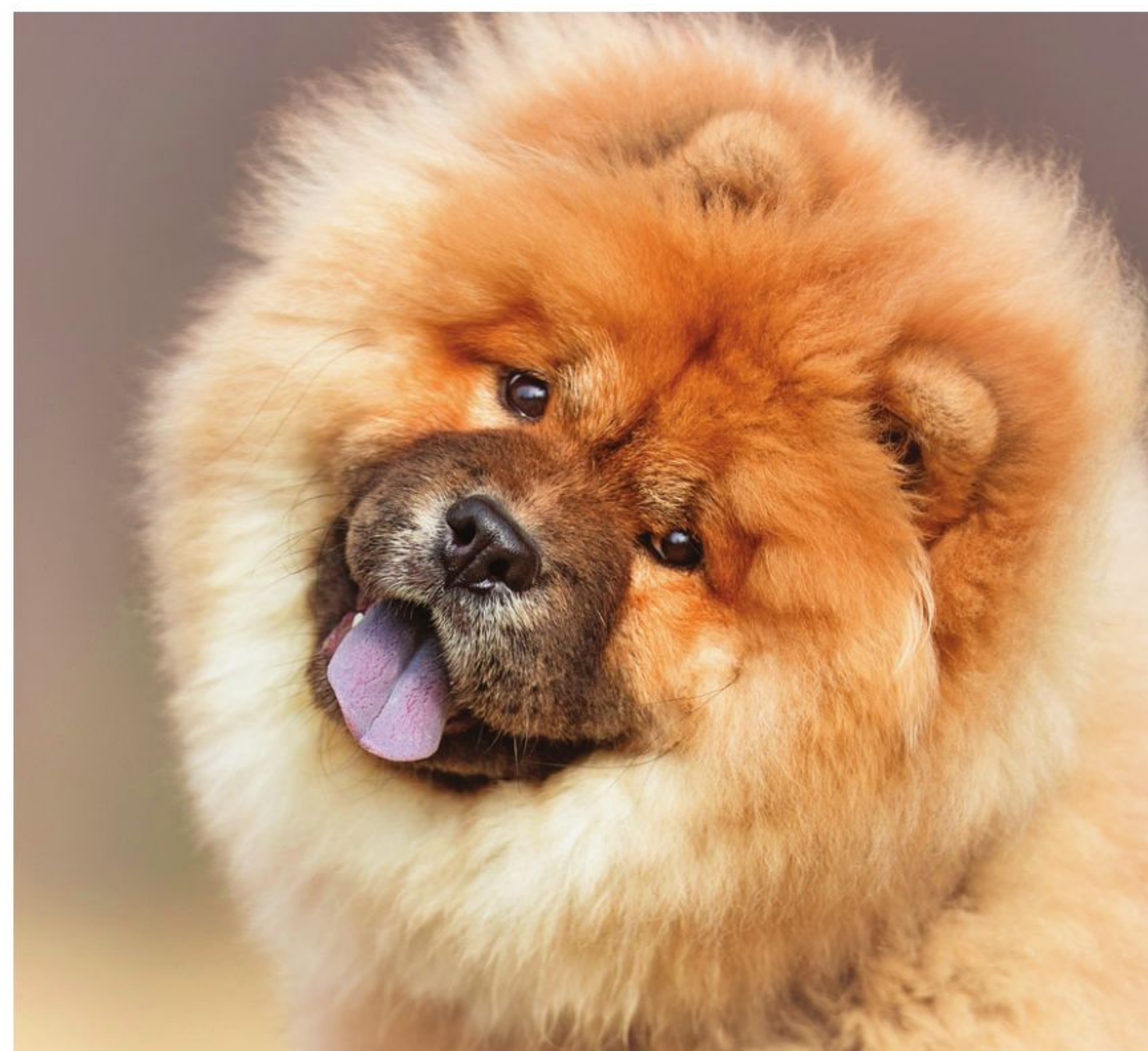
FAKE OUT

Willie B, a **gorilla** at **Atlanta Zoo** in **Georgia, USA**, was ready for **playtime**. Thinking he’d enjoy a game of **tug-of-war**, zookeepers tossed one end of a thick rope into the ape’s enclosure and handed the other end to a team of **ten men**. When the gorilla **picked up the line**, the men started to **pull**. But then Willie B **stepped on the rope**, and the keepers couldn’t get him off it, no matter how hard they tugged.

“Gorillas don’t like to make eye contact,” says **Terry Maple**, a **psychology professor** who was working at the zoo, “so Willie B was glancing away from the men.” Thinking the ape **was no longer paying attention**, the **straining humans** relaxed. Which was when Willie B **lifted his foot** and **yanked the rope**, causing the keepers to **skid** and **fall into a heap**. “He looked like he was **laughing**,” Terry says. Gorilla, one, humans, nil!

4

YOGA JOKESTER



Jean Donaldson’s yoga exercises weren’t as relaxing as she’d have liked – they were always **interrupted** by her pooch, **Buffy the chow chow!** The cheeky dog would **wait** until Jean was **holding her body in a tricky twist**, then **place rubber toys** on Jean’s shoulders and crossed legs!

“**Buffy would arrange her toys** on me every time I did yoga, and then **waggle her rear end excitedly**,” Jean explains. “And when they fell off, she would pounce, grab the fallen toys with her teeth, and **carefully place them back** on my body. She thought it was hilarious! If Buffy were a person, I think she’d have probably drawn a moustache on my photo.”



6

JUST KIDDING

Deliberately hassling a grizzly bear would be **too risky** for most animals. But not for a pack of **grey wolves** resting in a meadow in **Yellowstone National Park in Montana, USA**.

When a bear lumbered into the area, the **wolves formed a circle** around the animal. Two wolves **distracted the bear** from the front, while another **sneaked around behind him**.

"The third wolf darted in and **nipped the bear in the rear end**," says **wolf researcher Rick McIntyre**, who works in the park. "Then the wolves **ran away**. We think they did that **just for fun, to see if they could**."

Wolves can **control the force of their bite**, and this nip was **no more than a pinch**. Still, considering it was **several wolves against one bear**, the teasing could've lasted all day. But it didn't. Why not? The **bear sat down** – apparently he refused to be the *butt* of the joke!

5

WATER GAMES

Can **great apes** be funny? "Definitely," says **Rob Shumaker**, president of **Indianapolis Zoo in Indiana, USA**.

At a zoo where he used to work, Rob was **hosing down the orangutan enclosure** on a hot day when **Junior**, an adult male orangutan, started **begging for a drink**. The ape was sitting on a platform higher than Rob's hose could reach, so the scientist **flicked some drops** towards the ape. Delighted, Junior **laughed out loud**. A **long, playful water fight** followed.

When Rob ended the game, Junior **appeared to settle down**. But he was actually just **waiting**. A huge **puddle of water** had collected on his platform, and when Rob came to **say goodbye** to the orangutan, the laughing ape **swept his arm through the water, drenching** the scientist. "He totally got me!" Rob says.



7

GOTCHA!

You know the kind of **practical joker** who offers to shake hands and then **zaps you** with a hand buzzer? **Ambika the elephant** is like that! A resident of the **Smithsonian's National Zoo in Washington, D.C., USA**,

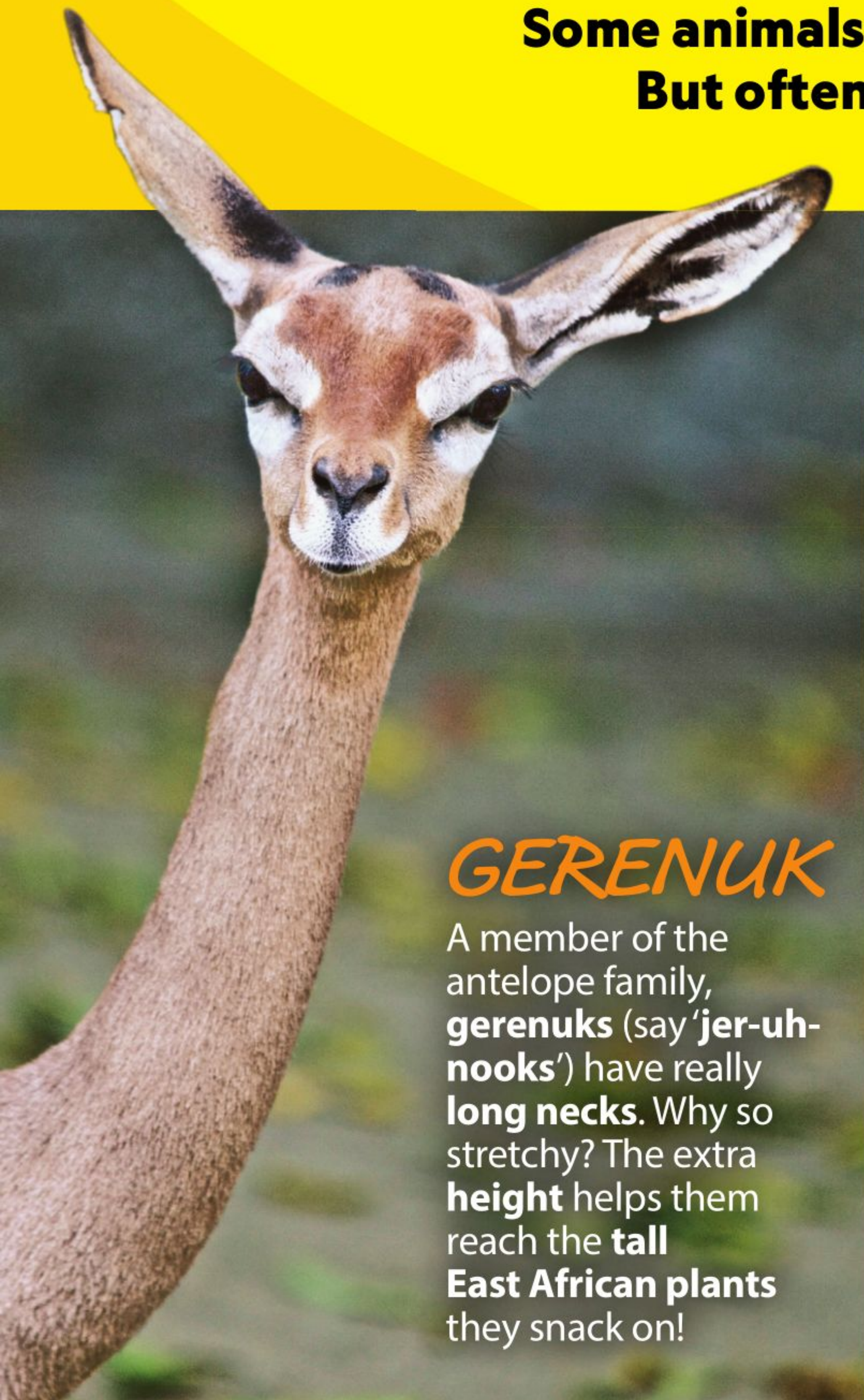
Ambika used to eat next to a **younger elephant** named

Shanthi. Both received a **daily ration of apples, carrots, and sweet potatoes**. "One day, Ambika pushed her apples over to Shanthi," says **Marie Galloway**, the zoo's elephant manager. A kind gesture, right? Shanthi thought so. She took the apples and gave Ambika her carrots in return. Little did Shanthi know that Ambika's motives weren't so pure.

By trading a few times, Ambika lulled Shanthi into **trusting her**. Then one morning the unsuspecting Shanthi **reached for Ambika's apples** and... Ambika **kicked her**! Shanthi wasn't hurt – but the joke was on her. "Ambika **set her up**," Marie laughs. How rude!

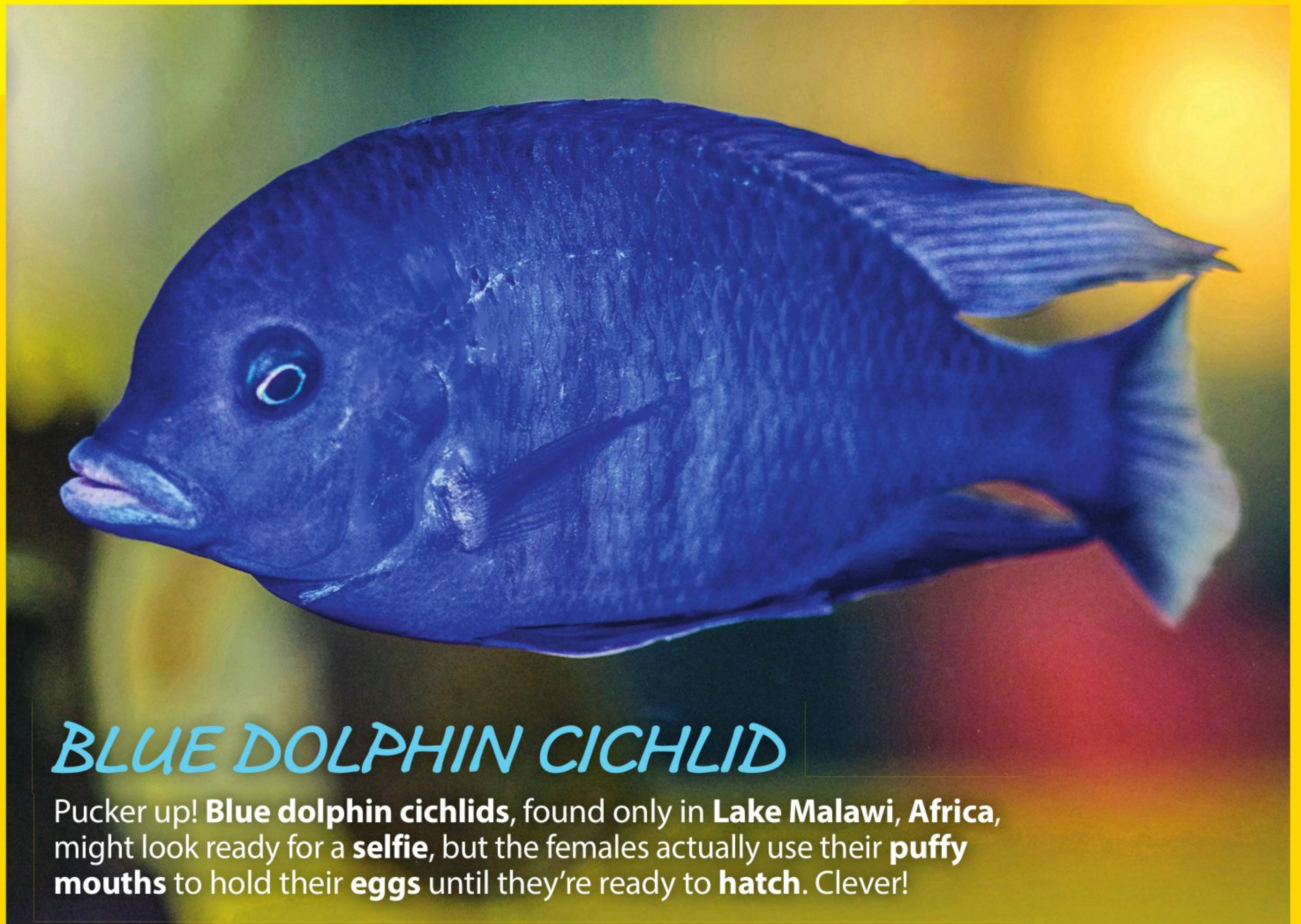
FUNNY-LOOKING CREATURE FEATURES

Some animals clown around while others, well, look like clowns!
But often these peculiar characteristics play important
roles in a critter's survival...



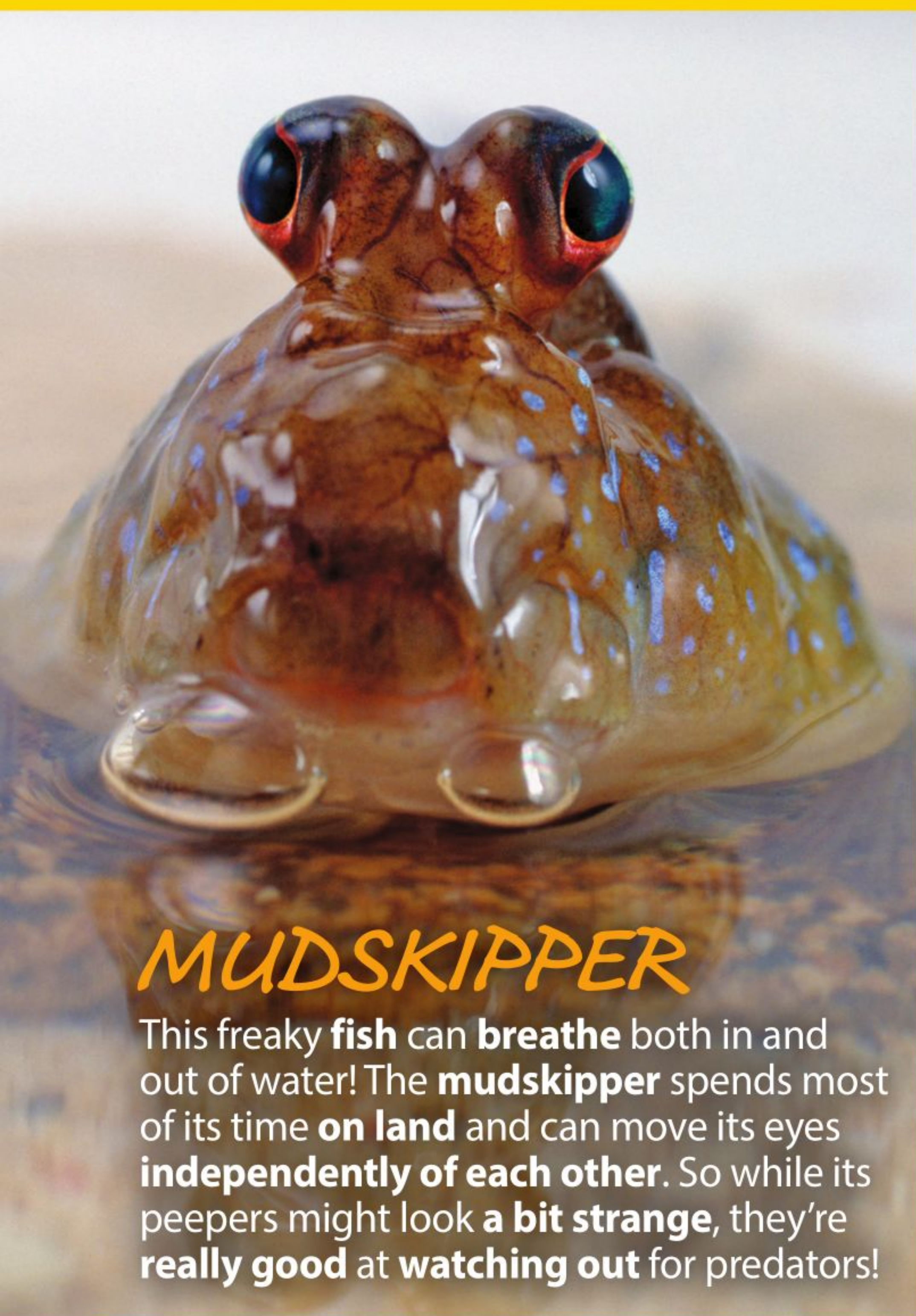
GERENUK

A member of the antelope family, **gerenuks** (say 'jer-uh-nooks') have really **long necks**. Why so stretchy? The extra **height** helps them reach the **tall East African plants** they snack on!



BLUE DOLPHIN CICHLID

Pucker up! **Blue dolphin cichlids**, found only in **Lake Malawi, Africa**, might look ready for a **selfie**, but the females actually use their **puffy mouths** to hold their **eggs** until they're ready to **hatch**. Clever!



MUDSKIPPER

This freaky **fish** can **breathe** both in and out of water! The **mudskipper** spends most of its time **on land** and can move its eyes **independently of each other**. So while its peepers might look a **bit strange**, they're **really good** at **watching out** for predators!



STAR-NOSED MOLE

No, this mole hasn't **swapped its schnoz** with an **octopus**! The fuzzy American **carnivore** is almost totally blind and hunts by **pushing** its **star-shaped nose** through the soil, **detecting** the **electrical pulses** of its prey!



FENNEC FOX

Measuring up to **half the size** of its **body**, a **fennec fox's** huge **ears** are super **sensitive** and help it hear tasty **rodents** and **reptiles** moving under the **Sahara Desert** sand. Yum!



JERBOA

With its **tiny body** and **long hind legs** and **tail**, the **jerboa** looks more like a **Pokémon** than a **rodent**! But when **predators** are near, its long legs and feet let it **bounce away**. The jerboa's tail helps it balance as it **springs** through its **desert home** at up to **24kmph**!

SAIGA

This antelope's **large bulbous nose** is **perfectly designed** for life in the **cold**. Its spectacular sniffer **warms the air**, gives it a brilliant **sense of smell** and helps it **communicate** with **loud nasal roars** on the vast plains of **Russia** and **Mongolia** where it lives.



BONKERS BEAST

Can you work out which three real creatures this **animal mash-up** is made from? Answer on page 47.



YETI CRAB

Looking like a crazy **crustacean** version of the Abominable Snowman, the **yeti crab** lives near **hydrothermal vents** – areas where **hot water** gushes up from the **ocean floor**. The crabs wave their **hairy arms** near the vents to capture **scrummy bacteria** to scoff!



ANIMAL LOLZ

Get a quick giggle with
these critter-themed jokes,
tongue twisters and riddles...

TONGUE TWISTER

Say this fast
three times:



Percy
seeks
special
sea
species.

Q

How do animals in the Arctic
travel quickly on the ice?



A

On polar skates!

KNOCK KNOCK!

Who's there?
Water.
Water who?
Water you doing?
Just open
the door!



KNOCK KNOCK!

Who's
there?
Cash.
Cash
who?
No,
thanks.
I prefer
walnuts!



Q

What do you get if
you cross a dog
with a TV AERIAL?

A

A golden receiver!



TONGUE TWISTER

Say this fast
three times:

Five frantic
frogs fled
from fifty
fierce fishes.



Q

What do cows read
each morning?

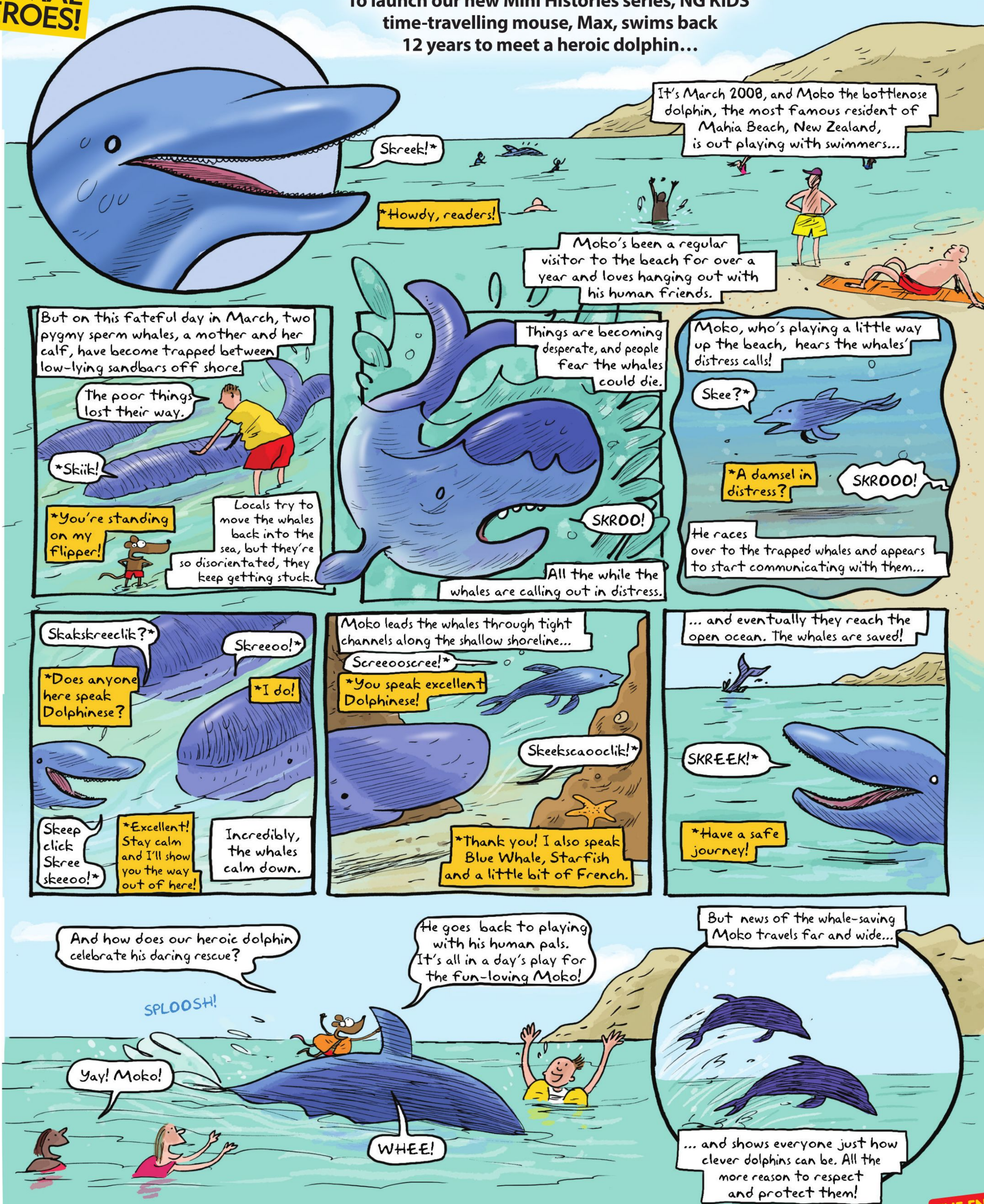
A

Moo-spapers!



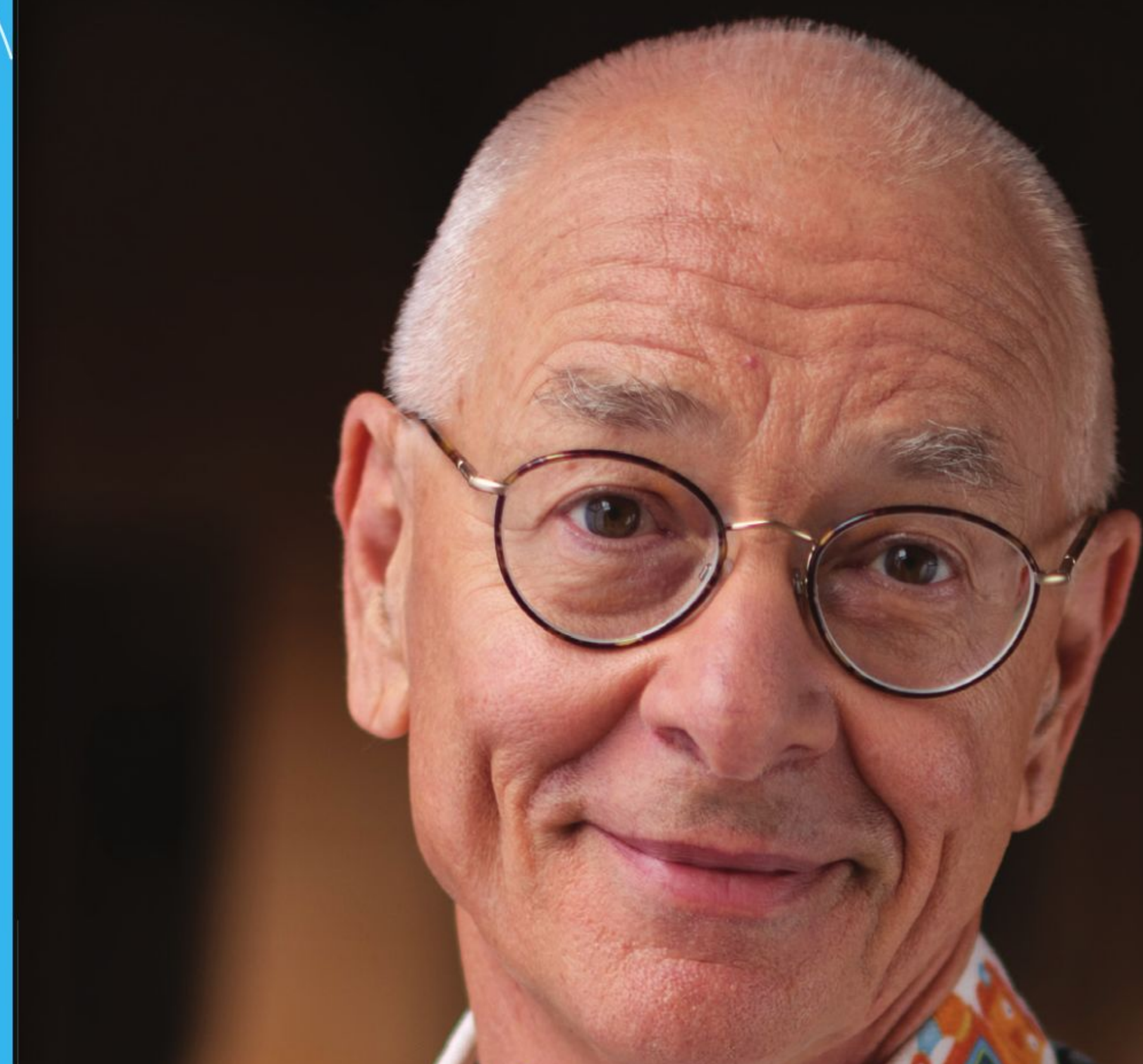
Clownfish © Kler / Shutterstock; Polar bear © Ilya Akinshin / Shutterstock; Ice skates © lg_studio / Shutterstock (Image Digitally Composed); Dolphin © Stephen Frink / Stone / Getty Images; Chipmunk © Shippee / Dreamstime; Dog © Mph Photos / Shutterstock; Frog © Valerio Pardi / Shutterstock; Cow © Worldpics / Shutterstock.

To launch our new Mini Histories series, NG KiDS' time-travelling mouse, Max, swims back 12 years to meet a heroic dolphin...



THE BIG INTERVIEW

Australia's favourite science broadcaster and author Dr Karl has been answering kids' questions for decades. So we wanted to ask HIM some of our own!



I would like to understand everything about everything, and explain it to other people!

Full name: Karl Sven Woytek Sas Konkovitch Matthew Kruszelnicki
Best known as: Dr Karl
Books written: 45 and counting!
Job: Making science accessible and cool!
Degrees: Physics and Maths, Biomedical Engineering, Medicine and Surgery
Awards: UNESCO Kalinga Prize for Popularisation of Science (2019), Australian Father of the Year (2003), Ig Nobel Prize (2002).

DID YOU KNOW?

Dr Karl and his family first came to Australia as refugees from Sweden in 1950. They were supposed to go to America but young Karl had a fever and the next boat they could get on went to Australia instead.

BE MORE DR KARL!

READ: Dr Karl's *Random Road Trip Through Science*, which comes with cool bonus augmented reality features, and *Dr Karl's Little Book of Space*

LISTEN TO: His podcasts at drkarl.com/podcasts

WATCH: Dr Karl's videos at drkarl.com/media and tinyurl.com/DrKarlvideos

Hi Dr Karl! Congratulations on winning the 2019 UNESCO Prize for Science Communication! How did you celebrate?

I visited a lovely **spa** in **Budapest**, the capital of **Hungary** (where the prize was awarded). It was bizarre to realise that various folk (**Goths, Mongols, Romans** etc) had been **bathing in the same spa** for **thousands of years**. Mind you, in **Australia**, we have the **oldest known human structures** – the **fish traps** on the river in **Brewarrina** were built some **45,000 years ago**.

Wow! You haven't always been a science communicator. Can you tell us some of the more unusual jobs you've done?

I've tested **four-wheel-drive vehicles** through **15** of Australia's **17 deserts**, spent five years as a **taxi driver**, been a **car mechanic** and a **roadie** for the musician **Bo Diddley** on some of his Australian tours. I've also been a **TV weatherman**, worked as a **hospital scientific officer**, and helped set up **Australia's first cable TV network**. Among other things!

A varied career, then!

When did you first get interested in science?

As soon as I realised there was something in the universe that I didn't understand.

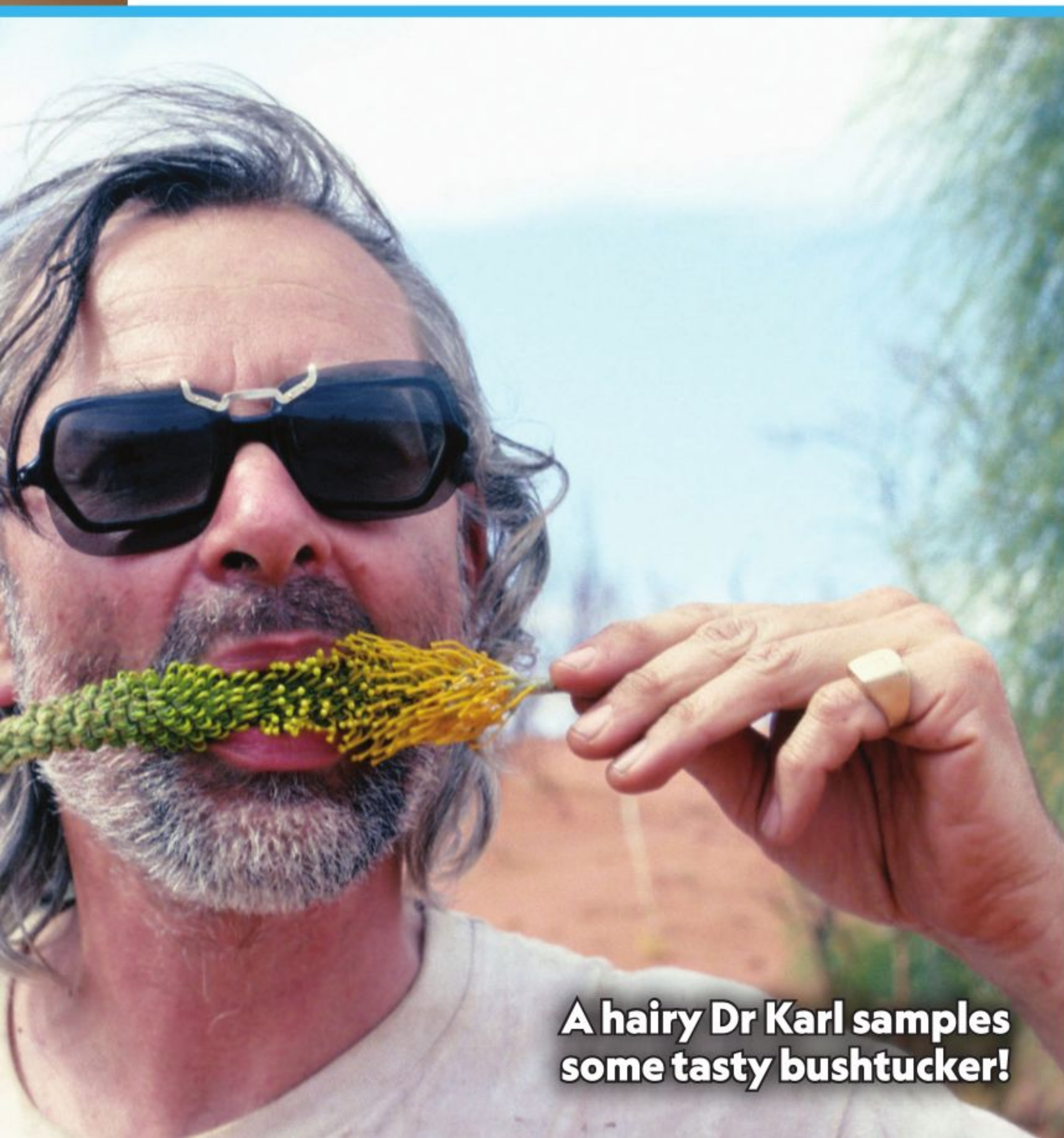
You had a hard time at school.

Can you tell us about how you overcame that?

I was bullied at school for being a **refugee**. But I found a whole **friendly universe** in the **Wollongong Public Library**.

Libraries are the best! Are you a real medical doctor?!

Yep. I was a **junior hospital doctor** at the **Sydney Kids' Hospital**. But now the only medicine I do is on **aeroplanes**, when cabin crew ask "Is there a medical doctor on board?" That happens about once per year!



A hairy Dr Karl samples some tasty bushtucker!



The super science brain spends hours on the radio each week – on up to nine radio stations!



Dr Karl as a young man!

Science is another word for 'sense of curiosity'

Ha ha! Your enthusiasm for science is really infectious! What are you researching at the moment that's blowing your mind?

There are lots of things... why **some people cannot burp**. And how the **bacteria in the gut** can change if you're a **marathon runner** to help you run longer. Scientists have also found a **sea creature** that **grows an anus** every time it wants to poo!

Whoa! What's the weirdest question a kid has ever asked you?!

How much **water** does a **whale swallow** when it **filter feeds**? It took me several hours to find the relevant research, but a **60-tonne fin whale**

can swallow a whopping **70 tonnes** of water, just to get **10kg of krill**. That action more than **doubles its weight!**

You know so much stuff, you're like a human encyclopaedia. How on earth do you remember it all?!

Well, I had **16 years of university education** (for free, because back then, the Australian government saw education as a worthwhile investment in the future). I **read** lots of **scientific, medical and trade journals** every year. (It's surprising how much I've learned from *Australian Potato*.) And I **write** about **3-4 new stories every week**. The human brain is wired up to **remember stories**. Each one takes 5-10 hours to write. If I read something, it will just fade away. But if I have to work and turn it into a story, I can remember it.

Clever! You have a condition called prosopagnosia which means you

don't recognise faces very well. How do you deal with that?!

With brutal **honesty** – I tell people that I can't recognise their faces. I sometimes write down their **names** and **locations** in an office, or remember how they **walk**.

You're also famous for your snazzy shirts. Can you tell us about them?

My **wife makes my shirts**. It takes her about **three hours** to make them. Each one has long sleeves, is made from cotton, and has two pockets. Why can't we all enjoy wearing bright colours?

We agree! You're an inventor, too!

What have you invented?

I designed and built a **machine** to **detect electrical signals** from the **human retina**, to help diagnose certain eye diseases. It took me one year to think about it, and one year to build it [see pic below].

You've won an award for your

research into belly button lint!

Why is it almost always blue?!

It's blue because the **average colour of people's clothing is blue**. **Belly button lint** is a mixture of **fibres** from your clothing, held together by your **dead skin cells**. If you wear only **red clothing** (including **socks** and **underwear**) then your belly button lint will be **red**.

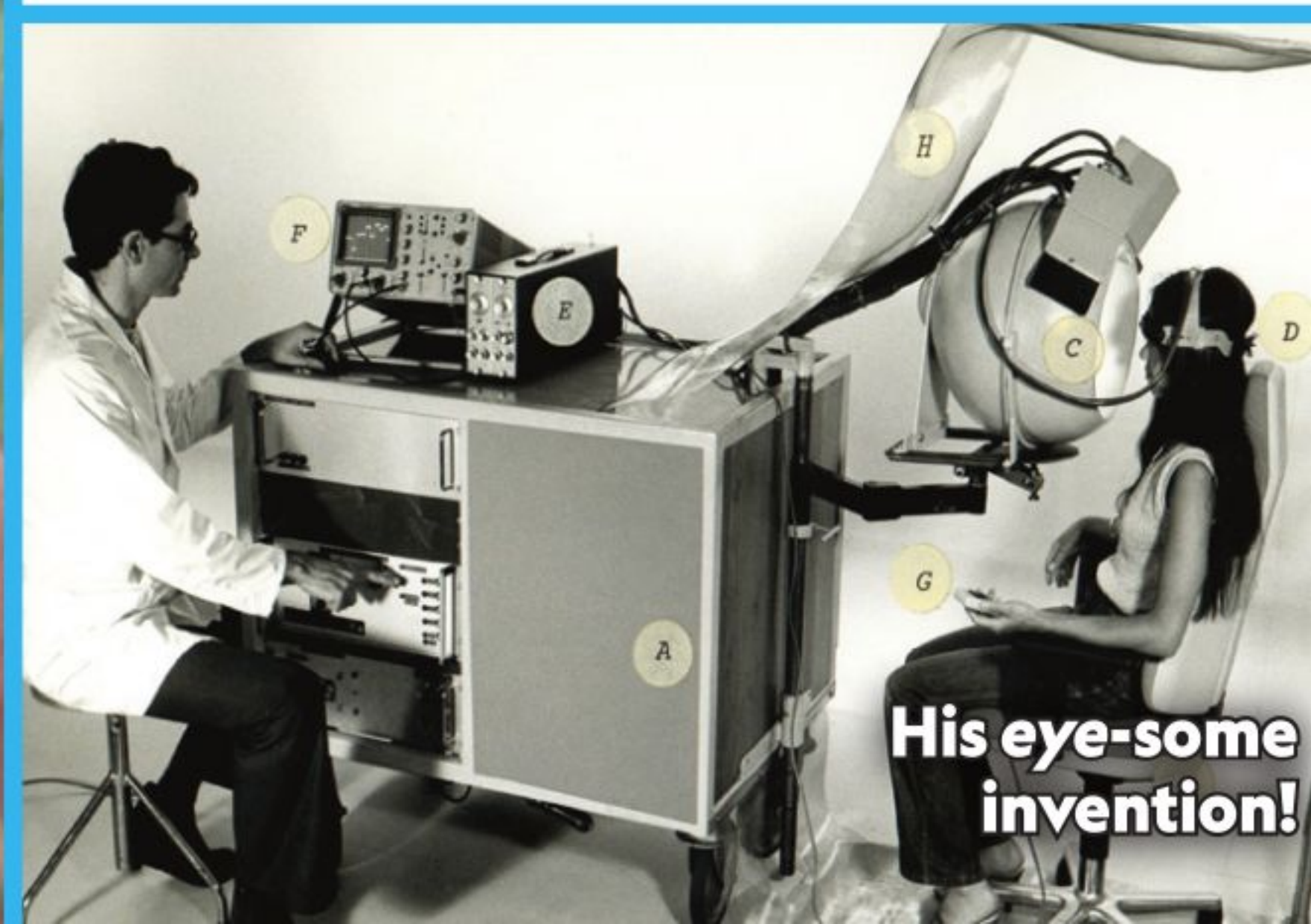
What's been the best moment of your life so far?

Getting **married** with my kids present inside the **Arctic Circle** on the **longest day of the year** was wonderful. The **Sun didn't set** that day and I hope the **love will never set on our marriage!** That, and being at the **birth of my kids**, and being the **photographer** at my **daughter's wedding**.

Nice! Finally, are there any cool science events for kids to look out for in 2020?

Yes! **NASA** and **ESA** (European Space Agency) will collaborate to slam a spacecraft into an asteroid to see how much the orbit of the asteroid will be changed (the DART Mission). That should be very exciting!

We'll look out for it! Thanks Dr Karl!



His eye-some invention!

WHAT IS AVAXHOME?

AVAXHOME-

the biggest Internet portal,
providing you various content:
brand new books, trending movies,
fresh magazines, hot games,
recent software, latest music releases.

Unlimited satisfaction one low price

Cheap constant access to piping hot media

Protect your downloadings from Big brother

Safer, than torrent-trackers

18 years of seamless operation and our users' satisfaction

All languages

Brand new content

One site



AVXLIVE ICU

AvaxHome - Your End Place

We have everything for all of your needs. Just open <https://avxlive.icu>

EPIC SCIENCE FAILS

Nat Geo explorers spill their most embarrassing moments...



Even **scientists** goof up sometimes! These **Nat Geo explorers** share some of their wildest slip-ups and hardest fails.

SNEAKY MONKEYS

THE SCIENTIST:

Susan Perry

COOL JOB:

Anthropologist

THE LOCATION:

Costa Rica,
Central America

"I needed to get **hair samples** from some wild **capuchin monkeys** without getting too close. I thought I had a great idea – put **transparent double-sided sticky tape** on the shells of **eggs**, one of their favourite **treats**, so their **hair would stick to the tape** when they cracked open the shells.

"My team and I put the sticky eggs on the forest floor and waited. The **21 monkeys** were excited when they first saw the hard-boiled eggs, but when they got closer, they realised **something wasn't right**. They made 'threat faces' at the eggs as they gently poked them and were careful to not touch the tape.

"Then they slowly **cracked** the eggs, **picked off the shells** and **ate each one** – **without** ever touching the tape! The monkeys had completely outsmarted me, so I had to find another way to gather the info I needed – **picking up monkey poop**."



These capuchin monkeys are too smart for Susan!



MANATEE MADNESS

THE SCIENTIST:

Jamal Galves

COOL JOB: Conservation biologist and Nat Geo Photo Ark EDGE Fellow

THE LOCATION:

Belize, Central America



Jamal transports an orphaned manatee to a rescue centre

"One day we brought a **wild manatee** aboard our boat to **study its health**. The **360kg** animal started to **thrash around**, making the check-up really difficult.

"Everyone else **jumped into the water** to avoid getting thwacked by the powerful manatee, but I **hung on** to the edge of the boat. I **laughed** at everyone else because they were soaking wet. The feisty manatee seemed to **calm down** enough for me to take the measurements, but then it began squirming again, **knocking me into the water** along with my only dry shirt, hat and sunglasses.

"No matter how well I plan, somehow the manatees never seem to cooperate!"



Using satellite technology, Jamal tracks a tagged manatee

SEASICK SCUBA

THE SCIENTIST:

David Gruber

COOL JOB:

Marine biologist

THE LOCATION: The Bahamas, an island country in the Atlantic Ocean



colour). But on that day, **4m-high rolling waves** were pushing our boat up and down... and I was feeling

really **seasick**.

"I **couldn't get my scuba gear on**, and eventually my fellow scientists got tired of waiting. So they **threw me into the water** and tossed in my gear and tank right behind me! I quickly put my **breathing regulator** in my

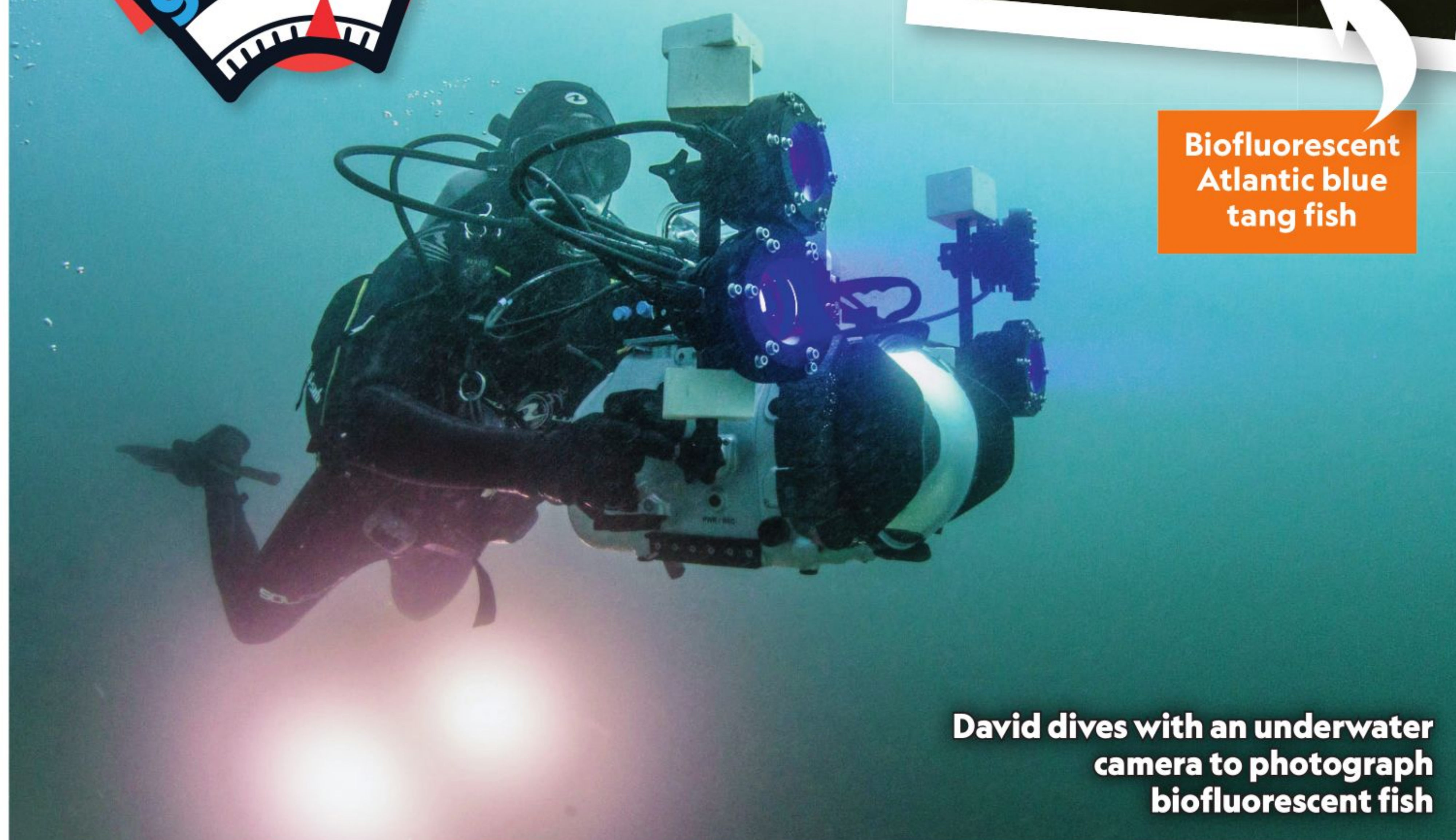
mouth, and I slipped on my **mask** and **vest** as I sunk down. Thankfully, once I was beneath the waves, I started to feel normal again.

"I'm glad my work pals forced me into action – that day I made a huge discovery... **Atlantic blue tang fish** can biofluoresce!"

"We were on a boat about to **dive** in search of animals that **biofluoresce** (meaning their **skin absorbs natural light** and **reflects** it as another



Biofluorescent Atlantic blue tang fish



David dives with an underwater camera to photograph biofluorescent fish



WILD DO-OVER

THE SCIENTIST:

Ricardo Moreno

COOL JOB: Wildlife biologist

THE LOCATION:

Panama, Central America



"We wanted to put **radio collars** on wild **ocelots** to learn more about their behaviour. So we placed **bait** in special traps, hoping the food would tempt them to walk in.

"We caught one, but as I excitedly moved to **sedate** the cat, it **pushed open the trap door, knocked me over**, and **ran off**. I tried to chase it, but it was already gone – I'd never catch a sprinting ocelot.

"Feeling defeated, we checked on our other traps, even though it's **extremely rare** to capture two ocelots in one day. But luckily, in one of the last traps was another ocelot! We knew we had to learn from my **overeager mistake**. This time we **calmly** approached the trap from behind and were able to sedate the cat and put the collar around its neck. Phew!"

RAT TRAP

THE SCIENTIST:

Danielle N. Lee

COOL JOB: Biologist

THE LOCATION:

Tanzania, Africa



"**Giant African pouched rats** are special – they can **save lives** by being trained to **sniff out buried explosives** and **disease-causing bacteria**. One day my team and I were studying these '**pouchies**,' but I was tired and couldn't find my **protective gloves**. I should have known trouble was coming.

"While I stretched the measuring tape between a rat's tail and its nose, the pouchie sunk its **razor-sharp teeth** into my thumb. Usually they bite quickly then run away, but this female wouldn't let go. **Three** other people had to help **open her mouth** and get her off me.

"I learned two important lessons that day – always wear **safety equipment**, and never do science when you're **tired**!"

Danielle's research helps scientists train rats like this one sniff out landmines

Read more about these rad rodents on page 33!



Danielle studies a young giant African pouched rat.



Ricardo (right) and his teammate place a radio collar on an ocelot in Panama



1

FOR THE BIRDS

WHAT Boulders Beach

WHERE Simon's Town, South Africa

WHY IT'S BIZARRE

You might expect to see **penguins** on an icy coast. But these birds like it **hot!** African penguins splash in the **warm waters** of this national park next to **540-million-year-old** granite boulders.

Bizarre Beaches

The world's coolest coastlines offer
so much more than sandy shores...



2

HIDE-AND-BEACH

WHAT Hidden Beach **WHERE** Marieta Islands, Mexico

WHY IT'S BIZARRE Tucked inside a crater, it's thought this spot was formed in the **early 1900s** when the **Mexican government** was testing military weapons on these then-uninhabited islands. It's so **secluded** you can only reach the beach by first swimming through a **12m-long** rock tunnel.



3

BLACK OUT

WHAT Punaluu Black Sand Beach **WHERE** Big Island, Hawaii

WHY IT'S BIZARRE The **jet-black** sand on this skinny stretch of beach is made up of **tiny bits of hardened lava**, produced over centuries by the nearby (and still active) **Kilauea volcano**. This cool spot is also a popular **nesting place** for hawksbill and green sea **turtles**.



4

TIP OFF

WHAT Zlatni Rat **WHERE** Bol, Croatia, in Europe
WHY IT'S BIZARRE This narrow beach is a real shape-shifter. Its tip – which sticks out as much as 500 metres into the crystal blue water – shifts in different directions as a result of wind, waves and currents.



5

HAVING A BALL

WHAT Bowling Ball Beach **WHERE** Mendocino County, California, USA **WHY IT'S BIZARRE** Resembling oversize bowling balls, the round stones that line the coast in this state park are known as 'concretions'. They're made when minerals bind to grains of sand before the rest of the sandstone erodes away.



6

TICKLED PINK

WHAT Pink Sand Beach **WHERE** Harbour Island, Bahamas
WHY IT'S BIZARRE Crushed-up coral, clams, and other small-shelled invertebrates create a grainy, pale pink sand that covers stretches of shore on this island. Pink sand beaches can also be found in Bermuda, Indonesia, Crete and the Seychelles Islands in the Indian Ocean.



7

COOL POOLS

WHAT Genipabu **WHERE** Natal, Brazil
WHY IT'S BIZARRE Somewhere between Brazil's tallest sand dunes you'll find these freshwater lagoons, their deep-blue water a shocking contrast against the bright white peaks. Looking for adventure? You can zipline down one of the dunes into the sparkling water below.



8

GLASS FROM THE PAST

WHAT Glass Beach **WHERE** Fort Bragg, California, USA
WHY IT'S BIZARRE Decades ago, the water along this beach was a dumping ground for glass bottles and other debris. Now, what was once tossed into the ocean has washed up as a rainbow of shimmering sea glass covering the coves.



by Kimi Nguyen, 7

The Campsite and the New Pet

One day during the school holidays, Mum was looking on her phone and saw an interesting website about a campsite called MAKE IT FUN!

When Mum told us about it, I tried to convince her that it was a bad idea because I didn't like camping. But she had already booked a caravan, so we needed to go. We started packing straight away.

The next day, we drove to the campsite. When we got there, we checked in at reception and introduced ourselves to the camp director. After we were settled, we did a lot of fun activities. That night, we had a campfire which I really enjoyed, as I got to roast some yummy marshmallows.

But the following day, a whole bunch of wild animals came to the campsite! They ran around wildly and even ate some of the camp food! The camp director led a group of families to calm the animals down. While I was helping out, I saw a cute, adorable wolf howling in sadness next to an extinguished campfire.

I crouched down next to it, and when I patted it gently, the wolf licked me! Then it howled in happiness since it had been lost and was now found and loved by me. The wolf howled to communicate to other animals that it wanted to stay with me. I found his parents. They didn't mind him staying with me, and they said goodbye to him. I named the wolf Hunter.

Hunter adds so much fun to my life. He plays with me every day and enjoys grooving to my favourite music.

WRITING TIP
What makes a great story opening? Throwing the reader straight into the middle of some action? Interesting dialogue that leaves the reader wanting more? Well, try forgetting it all and writing a boring opening! You'll be surprised how much you know about great openings after all!

STORY IDEA
Your character has been alive for 400 years. Where have they been? Who have they talked to? What memories do they have?

SEND US YOUR STORY!
Email 200-250 words to editorial@ngkids.com.au along with a recent photo of yourself and a simple illustration in black pen. If your terrific tale is selected, we'll be in touch!



ORCHID MANTIS





NATIONAL
GEOGRAPHIC

KIDS

KOMODO
DRAGONS







HISTORY'S GREATEST HITS

Sometimes, we don't always know the exact dates of events. That's why you'll see a 'ca' next to some years listed below. It stands for 'circa,' meaning 'around.'

ALL ABOUT

HARRIET TUBMAN

Meet the woman whose bravery helped hundreds of African-Americans gain their freedom from slavery.

YOU'RE IN BIG TROUBLE NOW!



ca 1820

Harriet was born **Amarinta Ross** in **Maryland, USA**, around **1820**. Her parents were both **slaves**, meaning that Amarinta (or **Minty**, as she was affectionately known) was set for a harsh life of slavery, too. At the age of just **five**, Minty was hired out as a **nursemaid** to another family. Her job was to soothe a newborn baby – but if it **woke up** and **cried**, Minty would get **whipped**.

ca 1832

Life was hard for young Minty. She was badly mistreated by her 'owners' and suffered some nasty injuries. When she was **12**, during an errand to the shops, she encountered a **runaway slave**. The man's 'overseer' tried to stop him by throwing a **metal object** at him, but it **struck Minty on the head** instead. She was seriously injured but said her **thick hair** probably saved her life. Sadly, Minty suffered **health problems** for the rest of her days.

1850 – 1860

During her daring escape, Harriet used the **Underground Railroad**. This was the name for a network of **safe-houses** and **secret routes** that was supported by **abolitionists** (people who wanted the slave trade to end). Harriet went back the following year to **rescue** members of her family. Over the next **ten years** she returned **19 times** to help more than **300 slaves** escape using the Underground Railroad. This put Harriet at great risk, as the reward for catching her – dead or alive – was about **£1 million** in today's money.



1844 – 1849

Minty married in **1844** and took her husband **John's** surname – **Tubman**. She also changed her first name to **Harriet** – the same as her mum. In **1849**, her 'owner' died and Harriet feared that she would be sold. So, under the cover of darkness, she fled north to **Pennsylvania**, where slavery was **outlawed**. She was finally free!



1863 – 1913

Despite the new law, many slaves were still being held captive, so Harriet was put in charge of a special **military mission**. She guided boats filled with **150 black soldiers** down the mine-filled **Combahee River** in **South Carolina**. Her troops attacked plantations along the way and rescued over **750 people**! The war ended in **1865**, but Harriet remained passionate about equal rights until she passed away in **1913** (fiercely campaigning for **women's right to vote**, too). She'll always be remembered as the woman who risked her freedom so that other people could achieve theirs.



1861 – 1863

Tension was growing between the North of the **United States (the Union)** – who wanted **slavery to end** – and the South (**the Confederacy**) – who didn't. In **1861**, the **American Civil War** broke out. Harriet joined the **Union army**. She helped out by cooking, washing clothes and **nursing** casualties. Later she carried out **spying missions**. In **1863**, **President Abraham Lincoln** issued the **Emancipation Proclamation** – this basically meant that all the slaves being held by the Confederate states were now **legally free**. Hooray!

A MISCHIEF

Yep, 'mischief' really is the name for a group of rats! It's their year, so let's celeb-rat-e them...



Did you know that 2020 is the Chinese Year of the Rat? The rat is the first of a 12-year cycle of animals that appears in the Chinese Zodiac, so if you were born in 2008, you were born in a rat year, too. Chinese astrologers say that means you'll be a **quick thinker**, **successful** – and have a **furry head**, **sharp teeth** and **black eyes**. (OK, we made that last bit up!) But what are these rodents *really* like? Let's find out if they're *gnaw-ty* or nice!

WHOA!

Rat-like mammals lived alongside dinosaurs – and even ate some of the small ones!

Rats' super-strong **teeth never stop growing!** They have to keep **nibbling** to wear them down – or eating would become impossible!

Their **whiskers** are more **sensitive** than human **fingertips!** Rats **brush** the **long hairs** against objects or the floor, helping them build up a **detailed picture** of their environment.

With **eyes** on either side of their head that can move in **opposite directions**, rats are even able to see what's happening **above them**. Very handy for spotting any **rat-eating birds!**

Rats can **hear** well, including sounds that are too **high-pitched** for humans to hear. They may also '**smile**' with their **ears!** When they're **happy** their ears **relax**, become **droopy** and **slightly pinker**. Aww!

RATS ROCK!

Brown rats and **black rats** scamper over much of our planet. They've stowed away on **boats** and travelled to **almost every country**, settling wherever **humans live**. They often **outnumber** us and yet we

rarely see them. That's because they're **nocturnal**, living **underground**, and are **great** at staying **unseen**. So why are there so many of them? It's because they **breed so fast**. Females have 7-12 **babies** every

3-4 weeks, which can have babies of their own just three months later! Rats have **gnaw-some** other qualities, too. They're **friendly**, **curious**, **intelligent** enough to **train**, and '**laugh**' when they **play!**

EF OF RATS!

OOOH, FANCY!

If you were a poor kid in **Victorian times**, you might have worked as a **rat-catcher** – many children did! **Queen Victoria's** rat-catcher, **Jack Black** (who was actually an adult), was the first person to **train rats** and **breed them** as **pets**. Sometimes he'd catch **unusually coloured** ones. He'd sell them to **rich ladies** who'd keep them in **squirrel cages**.

After years of breeding, these domesticated rats became the common **household pets** that are still sold in pet shops today – known as '**fancy rats**'. They make **good pets**, **bond** with their **owners**, and can learn to perform tricks and solve puzzles. *Fancy* that!

They wash by constantly **licking** their **fur** – sometimes they'll even '**comb**' it into place with their teeth. Yes, rats are **squeak-y clean**!

Rats can make fun pets!

Long **tails** are used for **balance** and to keep themselves **cool**. They can direct some of their **body heat** out through them!

WOW!

These rodents can swim **underwater**, holding their breath for several minutes!

COOL!

Rats survived nuclear testing on islands in the Pacific Ocean!

EWV!

A single rat can leave **25,000 droppings** a year!

RAT ATTACK?!

But if rats are so bright and adaptable, why do many people **dislike** or even **fear** them? Well, wild rats can carry and spread **diseases** among humans. They can also destroy farmers' **food crops**, either by **eating** them, or **contaminating** them with their **wee** and **poo**! **Invasive** brown

and black rats (those **introduced** into countries by people) may **eat plants** and **hunt** local animal species, sometimes to **extinction**. Rats can also cause serious **damage** around people's homes, by **gnawing** on things like **wires**, **wood** and even **bricks**. Oh no!

LAB RATS

Domesticated rats are used in **laboratories** worldwide for medical research – such as testing the **effects of medicines**. But many people think that **experimenting** on animals is cruel and wrong - even if it may **save human lives**. What do **YOU** think?



RARE RODENTS!

These unusual critters certainly stand out from the crowd...

Don't look at me - I'm naked!

Only rodents that belong to the genus (group) known as *Rattus* are true rats. So the ones shown here aren't REALLY rats - despite their names...

NAKED MOLE-RAT

These may be the **weirdest** - as well as the **wrinkliest** - rodents of all! **Naked mole-rats** live up to **ten times longer** than regular rats and can go **without oxygen** for up to **18 minutes** without any ill effects. Plus, thanks to a special **acid** they produce, they rarely get cancer.

Naked mole-rats are almost totally blind, and live in vast **underground colonies** in the deserts of East Africa. They dig **4-km-long burrows** with four **huge teeth**, which grow *outside* their mouths - ensuring they don't end up **swallowing dirt**! These **hairless** rodents can move their teeth together or work them independently. So cool!

NORTHERN LUZON GIANT CLOUD RAT

At **77cm long** these rodents aren't *quite* giants... but they *do* spend a lot of time in the clouds, living in the **upper branches of rainforest trees** on the island of **Luzon** in the **Philippines**. With **large hind feet** and **long claws**, these **timid** rodents are **excellent climbers**, coming out at **night** when they feel brave enough to look for food on the **forest floor** - tender young leaves and berries are their fave snack. Nicknamed **cloudbrowsers**, these little cuties have small ears, bushy tails and long, rough fur. Don't they look *tree-mendous*?!

Who says rats can't live the high life?

KANGAROO RAT

They may live in **North America's hottest, driest deserts** – but don't worry about **kangaroo rats getting thirsty**. They get all the moisture they need from the seeds, stems, buds and fruit that they eat. There are **22** known species of kangaroo rats,

- most of which are good **swimmers** –
- though they don't get much practice!
- They're named because of their **extra-long, muscular back legs** and **big feet**
- which help them do **mighty hops** – up to **two metres** in a single bound. **BOING!**
- They also use their fab feet to fight off predators, such as **rattlesnakes**. Sounds like they're skilled at ka-rat-e!

Even rattlesnakes don't rattle this rat!

AFRICAN GIANT POUCHED RAT

African giant pouched rats are lifesavers! These **metre-long** mammals (including tail) have been trained to sniff out **tuberculosis (TB)** – one of our planet's deadliest infectious diseases – in hospitals in **Tanzania, Mozambique** and **Ethiopia** in **Africa**. They use their **sensitive noses** to sniff the **spit** samples of patients who may have TB, scratching the floor when they **detect the disease!** The super sleuths have also been trained to sniff out **landmines**, helping make towns and villages safe after wars [you can read more about this on page 21].

So why are they called 'pouched' rats? Well, like hamsters, they have handy **cheek pouches** to fill with food. Often they stuff them with so much grub that they struggle to **squeeze** into their burrows. Now *that's* cheeky!

Rats to the rescue!

Rat's all folks!

FIND YOUR BIRTH YEAR

ANIMAL

1948, 1960, 1972, 1984, 1996, 2008, 2020

RAT

THE REAL THING

It's your year! And as you'll know from the previous pages, rats are **highly adaptable** and very smart! They can **live** just about **anywhere** and **eat** pretty much **anything**. Before **brown rats** leave their **underground burrows**, they'll **send one rat ahead** to make sure danger isn't lurking outside. Clever!

BORN A RAT?

You **welcome challenges** and enjoy **learning about new things**. Funny and **smart**, you are **generous** and will **protect** your pack of friends.



CELEBRITY MATCH
ASH BARTY (1996)

1949, 1961, 1973, 1985, 1997, 2009

OX

THE REAL THING

Oxen have been known to pull loads of about **5,000kg** (that's as heavy as an **elephant**!) and people value their **strength**. An ox's **horns** can grow to be more than **50cm** long.

BORN AN OX?

You approach projects in a **step-by-step manner**, wanting to do things **right the first time**. **Shy** but **dependable**, you're **caring** and **trustworthy**, and never lose sight of your goals.



1951, 1963, 1975, 1987, 1999, 2011

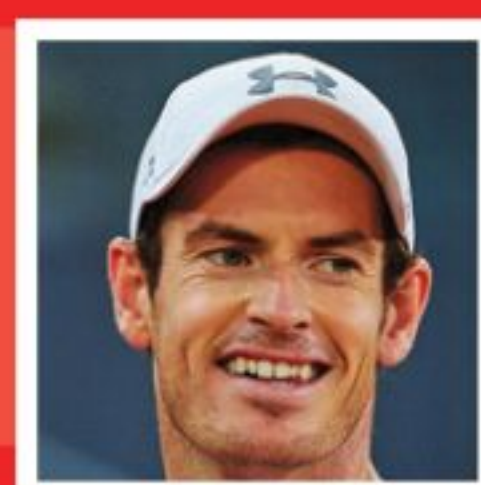
RABBIT

THE REAL THING

Rabbits normally give birth to about **six babies** at once, and often live in **groups**. Their **long ears** help them **cool off** by **lowering the temperature** of the **blood** that circulates through them.

BORN A RABBIT?

Well-liked and **popular**, you have a large circle of family and friends. You are very **protective** of them – and they protect you right back! You tend to **keep your cool** and avoid conflicts.



CELEBRITY MATCH
ANDY MURRAY (1987)

1952, 1964, 1976, 1988, 2000

DRAGON

THE REAL THING

The mythical dragon is a symbol of **power** and **good fortune** in Chinese culture. One of the most popular figures in **Chinese art**, the dragon is believed to be a combination of **nine animals**, including a **frog**, a **tiger**, an **eagle** and a **fish**!

BORN A DRAGON?

You go out of your way to **help your friends**, who often seek you out for **advice**. Your **outgoing personality** helps you **get along** with many types of people.



MAL!



According to Chinese tradition, the year you were born determines your characteristics! Each year of the Chinese zodiac is represented by one of 12 different animals, and legend has it that people born under that animal have certain personality traits. So, just for fun, find your birth year on these four pages and discover what your animal says about you...

Which of the 12 Chinese zodiac animals are you?
Find your birth year to reveal all!



CELEBRITY MATCH
MALALA YOUSAFZAI (1997)

1950, 1962, 1974, 1986, 1998, 2010

TIGER

THE REAL THING

The largest of the big cats, tigers hunt alone. They secretly stalk prey, then leap and attack when the time seems right. But their dinner still manages to escape much of the time!

BORN A TIGER?

You're a natural leader, but often like to do things by yourself (that's how you stay in charge!). You believe in fighting for what's right, even if you think you'll lose in the end.



CELEBRITY MATCH
BINDI IRWIN (1998)



00, 2012



CELEBRITY MATCH
RIHANNA (1988)



1953, 1965, 1977, 1989, 2001, 2013

SNAKE

THE REAL THING

Snakes have great instincts. Some 'play dead' to fool predators, and most sense prey by detecting ground vibrations. They can take more than an hour to swallow a meal, and become inactive for up to two weeks before shedding their skin.

BORN A SNAKE?

You rely on your instincts before asking others their opinions. At times you want to take a break from the action. It's not that you're lazy – sometimes you just like to think!



CELEBRITY MATCH
DANIEL RADCLIFFE (1989)

Turn the page to see more animals!

1954, 1966, 1978, 1990, 2002, 2014

HORSE

THE REAL THING

Horses **sleep** for only about **three hours** a day – but they can sleep **standing up** as well as lying down! They're **intelligent**, and most can sense **nervousness** in people.

BORN A HORSE?

You have loads of **energy** and **love adventure**. You **take charge** and **understand people**, so you know how to work a crowd!



CELEBRITY MATCH
JENNIFER LAWRENCE (1990)

1955, 1967, 1979

SHEEP

THE REAL THING

Sheep are **timid** animals, and graze in **flocks** to guard against predators. Most sheep are raised for their **wool**.

BORN A SHEEP?

You're at your best when people who **admire you flock to your side**. A **loyal** person, you stick by your friends. You're **artistic, creative**, and like to look good!



CELEBRITY MATCH
ED SHEERAN (1991)



1957, 1969, 1981, 1993, 2005, 2017

ROOSTER

THE REAL THING

The rooster's loud **cock-a-doodle-doo** attracts females and warns other males to **stay away**. The red **comb** on his head may help other roosters **identify** him, and it also sets him apart from other types of bird.

BORN A ROOSTER?

You are **practical** and **resourceful**, and you use what you have to succeed **without** taking a lot of **risks**. A **hard worker**, you say what's on your mind and have a sense of **style** that sets you apart.



CELEBRITY MATCH
BEYONCÉ (1981)

1958, 1970, 1992

DOG

THE REAL THING

A dog's **hearing** is so **sensitive** it can hear the **quietest** of **high-pitched sounds**, which us humans could never detect! Their **strong sense of smell** helps them do clever things, like **find lost people** or sniff out **criminals**!

BORN A DOG?

You're a **great listener** who can keep a **secret**. **Loyal** to your friends, you have a keen sense of **right and wrong** and stick to what you believe in.



79, 1991, 2003, 2015



82, 1994, 2006, 2018



CELEBRITY MATCH
HARRY STYLES (1994)

1956, 1968, 1980, 1992, 2004, 2016

MONKEY

THE REAL THING

Social and playful, monkeys show **affection** and **friendship** by picking **bugs** and **dirt** out of each other's fur. These animals use their hands and feet to grip objects and climb trees. Some even have **tails** that can **grab** items as small as **peanuts**.

BORN A MONKEY?

Swinging from one group of friends to another, you **love to have a good time**! You like to **entertain** your friends by showing off your talents, and they appreciate your **cleverness** and great sense of **humour**.



CELEBRITY MATCH
JOHN BOYEGA (1992)

1947, 1959, 1971, 1983, 1995, 2007, 2019

PIG

THE REAL THING

Clever, sociable and tidy, pigs can learn to **play video games**, **fetch balls** and **follow commands**! They like to **cuddle** each other while they **sleep**, and **females** sing **lullabies** to their babies. Aw!

BORN A PIG?

Smart and caring, you **love helping** people. You have **great taste** and love to wallow in the **nicer things** in life!



CELEBRITY MATCH
DUA LIPA (1995)

JUNIOR EXPLORERS' CLUB

VISIT TO THE VET!

Hi, NG KIDS!

I visited the **veterinary clinic** at the **University of Sydney** for a tour. The clinic has two wings to **separate the dogs and cats**, otherwise the place would be **very noisy**. I met lots of cute cats and dogs and was lucky enough to see the nurses putting a dog to sleep to **get ready for surgery**.

The most exciting part was the room where **students practise operating on fake animals** before they do the real thing! First, I got to **feed a tablet to a fake cat** to learn how to get it right down the throat. Then I got to reach into the **butt** of a model **cow** to feel what's inside it! That's to determine how **heavily pregnant** the cow is. It was an extraordinary day!
Amelia, 9

● Wow, what an informative day out, Amelia! Did you know it takes 5-7 years to train to be a vet?



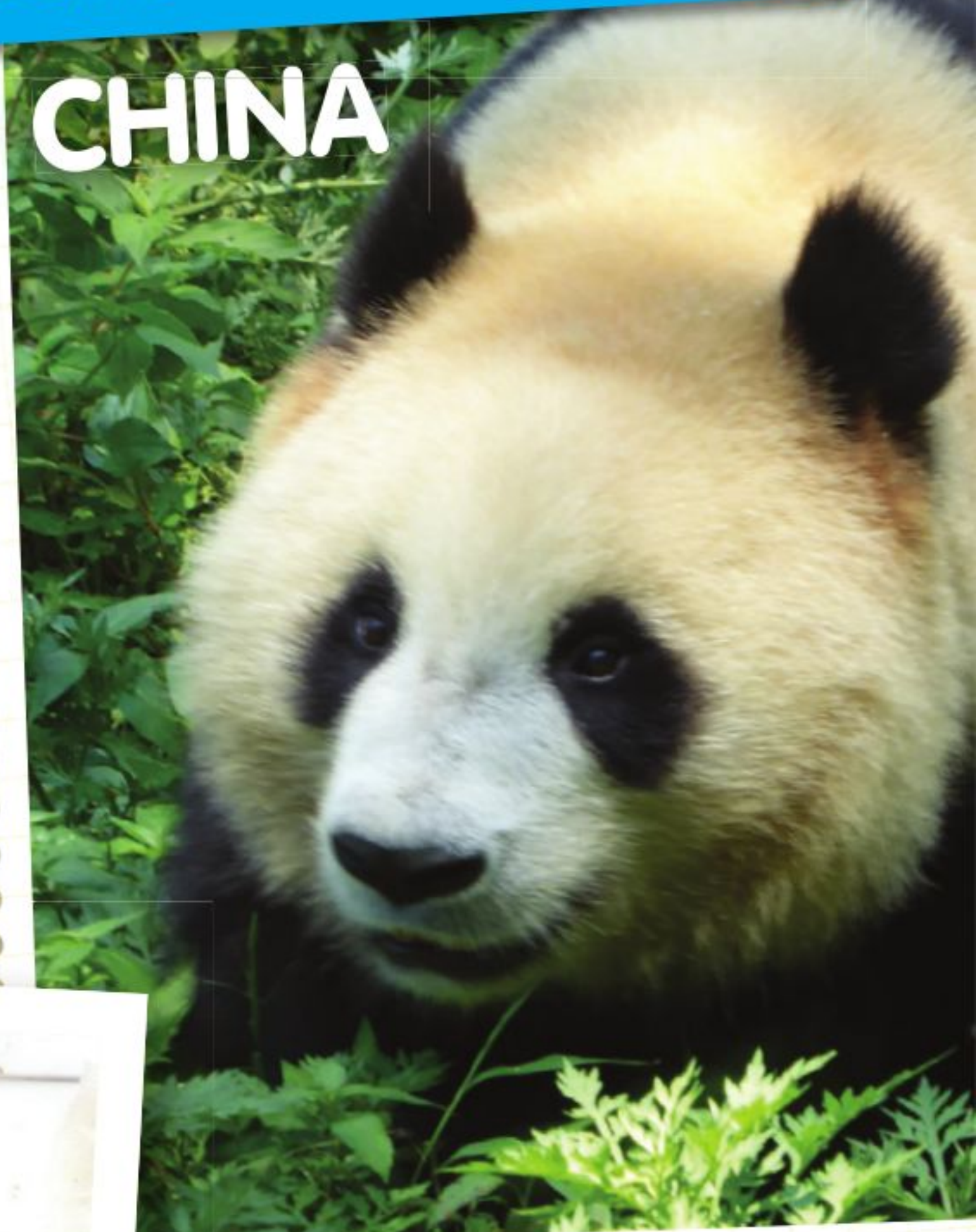
What a purr-fect day out!



Amelia practises her vet skills!

POSTCARD FROM...

CHINA



Elliott's teddies are helping save the planet!

POETRY CORNER

I wrote a poem about our amazing **firefighters** who are working so hard to keep us all safe. I hope you like it.
Lucia, 10

*Our great Aussie heroes
Through great Aussie droughts
Through great Aussie floods
You've been there through it all
You've been through almost everything
And you'd have to admit that you've
seen it all
You've been risking your life
To save the country
And all that it contains
You will get through this hard time
And beat the burning blaze
In no time at all
The peace will return
And we all will agree
That our great Aussie fires
Will be great Aussie heroes*

● Top poem, Lucia! We're all so proud of our fires during these tough times.



NATIONAL GEOGRAPHIC

KIDS

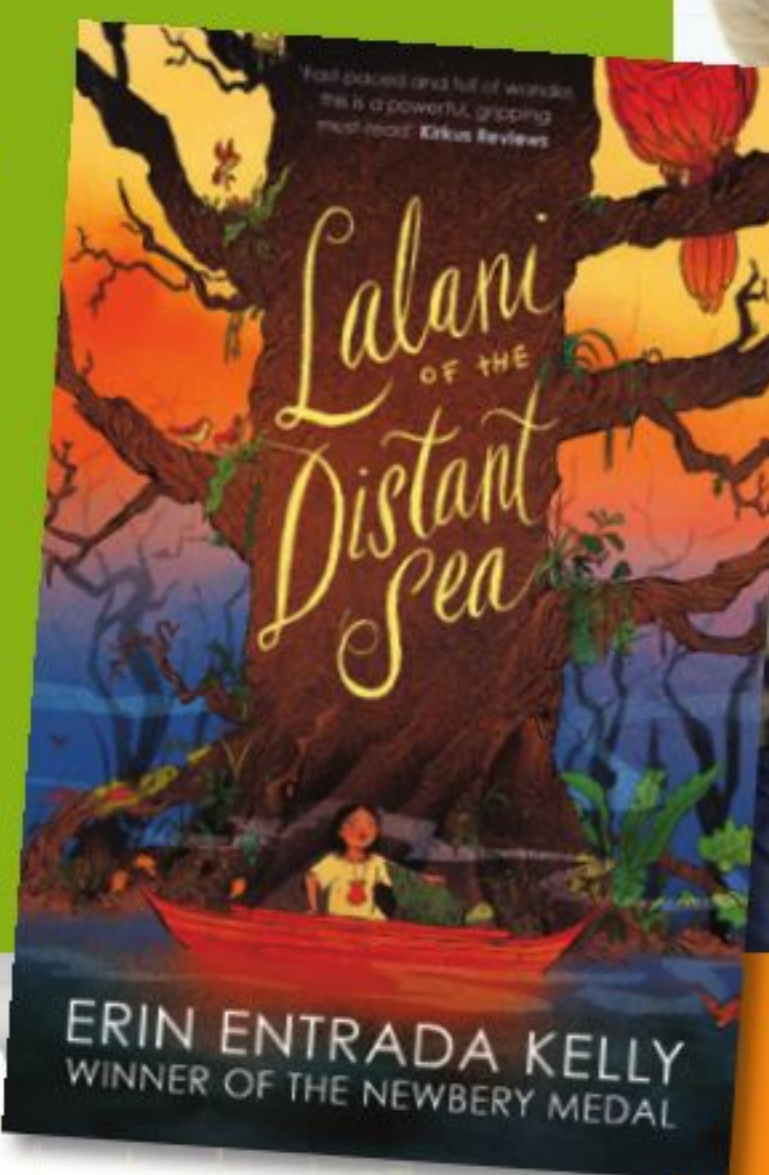


Here's RUSTY!

COVER STAR!

Name: Rusty
Breed: Cavalier King Charles spaniel, crossed with a poodle
Age: Rusty is only 4 months old
Owner: Anai, 10
Loves: His rubber chicken, play-fighting, and playing with Anai and her sisters
Hates: Being ignored or left at home. He isn't too keen on the ocean or swimming either!

We want to hear from you! Send in your artwork, jokes, craft pics and pet photos. Tell us about your wildlife sightings, hobbies, interests and opinions! A selection of our faves will be printed on this page! Email us at editorial@ngkids.com.au
 Every reader on these pages will scoop a copy of *Lalani of the Distant Sea*, a top new adventure filled with mystical creatures and inspired by **Filipino folklore!**



WILD CAT CONSERVATION

with Ben Britton



Say 'yay!' for yaks!

Hi NG KiDS!
 My family went to China for five weeks to see wild pandas. We also went to Tibet and saw Mount Everest and the Potala Palace. In Tibet we saw a lot of animals like wild yaks, Tibetan wild ass, mountain goats and gazelles. We saw a lot of monasteries, too. It was great!
 Felix, 10

● Sounds like the trip of a lifetime! Top photos, too!

HERO OF THE MONTH



Dear NG KiDS,
 I love animals and desperately want to save endangered species and stop climate change. So I sell teddies to raise money and awareness about the critically endangered Amur leopard. In order to reduce my carbon footprint, I sell second-hand teddies which I repurpose to look new. I sell them at a disability service so people with disabilities can buy teddies for cheap prices going to a good cause. It's a win-win for both people with a disability and Amur leopards. I restock the teddies every week so I can keep earning more money to donate.
 Elliott, 11
 ● What an amazing idea Elliott. Great job!

HORSE IN THE HOUSE!

Hi NG KiDS,
 This is my pony Franky. She's 13 years old. The first time I rode her my mum and dad had to help me. Now I can gallop on her and she loves the beach. She's very fast.
 Mummy let me bring Franky into the house once while my dad was building a wall outside. She was so good. She just walked in through the kitchen and onto the carpet in the lounge. Everyone laughed. I've asked if she can come in again and Mum said 'yes'! I love Franky very much.
 Sophie, 8
 ● Aww, sounds like she's a very special horse, Sophie!



Sophie and Franky are best pals!



DID YOU KNOW?

Jaguars have been known to dive into lakes and rivers to catch caimans!

LET'S MEET THE JAGUAR

- Where do they live?** Jaguars inhabit swamps, rainforests, grasslands and forests across North, South and Central America. They prefer living near water.
- What do they eat?** Jaguars eat over 80 different species of birds, mammals and reptiles, including deer, caiman, foxes, anacondas, turtles, monkeys and sloths. They can catch their food on land and in water!
- How do they live?** Jaguars are solitary and 'crepuscular', meaning they're more active at dawn and dusk. When active, they spend their time looking for a mate or hunting for food. They're incredibly athletic, and excellent swimmers, and unlike most other cats enjoy spending time in water.

- How big do they grow?** Jaguars are the largest cats in the Americas – adult males reach lengths of more than 2.1m and weigh 56–96kg. Females are smaller.
- How do they communicate?** Like most cats, jaguars have a lot of vocalisations, such as roars, grunts and meows. They also communicate with scent, marking their territory by scratching and spraying urine on trees, and rubbing the scent glands in their cheeks and necks on branches and logs.



Ben's fave fact!
 The name Jaguar is derived from the Native American word 'Yaguar', which means 'he who kills with one leap'!

To learn more about Wild Cat Conservation go to wildcatcentre.org.au

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Shaun the Sheep, the world's favourite (and naughtiest) **woolly hero** is back – and this time he's plunged into a **giggle-filled intergalactic adventure**! When an adorable alien called **LU-LA** crash-lands near **Mossy Bottom Farm**, her magical powers (and **galactic-sized burps**) soon charm the flock, and Shaun takes his new extra-terrestrial friend on a **road-trip to find her lost spaceship**. But a sinister **alien-hunting agency** is on their tail! Can Shaun and the flock save LU-LA before it's too late?!

To celebrate the release of this *baa*-rilliant film, the **first 40 new subscribers** this month will scoop an out-of-this world prize pack, featuring a **flying disc** (like a frisbee!), **light-up LU-LA ears** and some **super stickers**. Cool!



A Shaun the Sheep Movie: FARMAGEDDON is in cinemas now!

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FUN STUFF

GAMES, LAUGHS, AND LOTS TO DO!

Answers
on page
47

SPOT THE DIFFERENCE!

Can you find the TEN differences between these summer beach scenes?



WHAT IN THE WORLD?

POSITIVELY PURPLE

These photographs show close-up views of purple objects. Unscramble the letters to identify what's in each picture. **Bonus:** Use the yellow letters to help you answer the joke below...

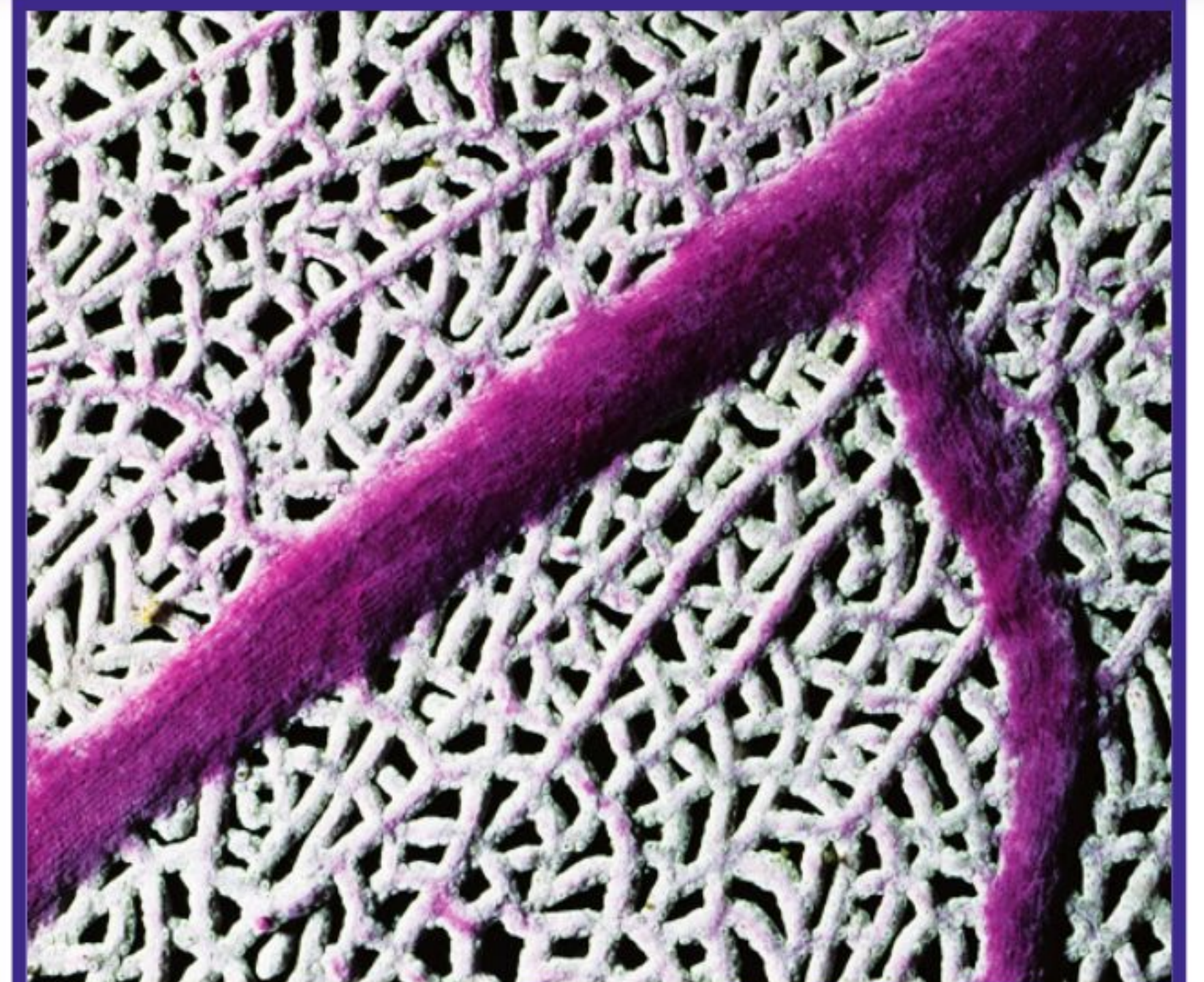
Answers on page 47



U M L S P



O L W O



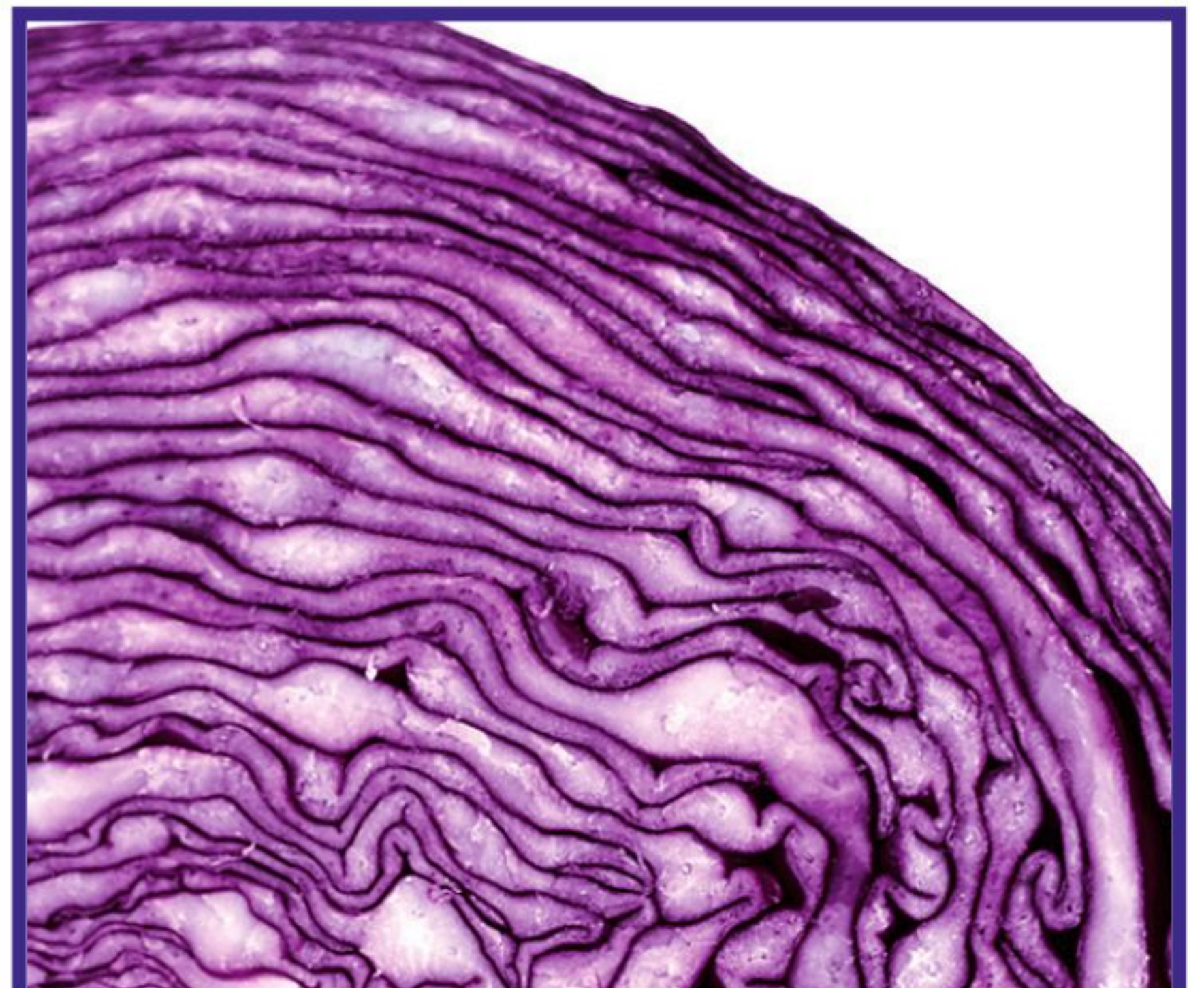
A E S N A F



L C O H A S E E



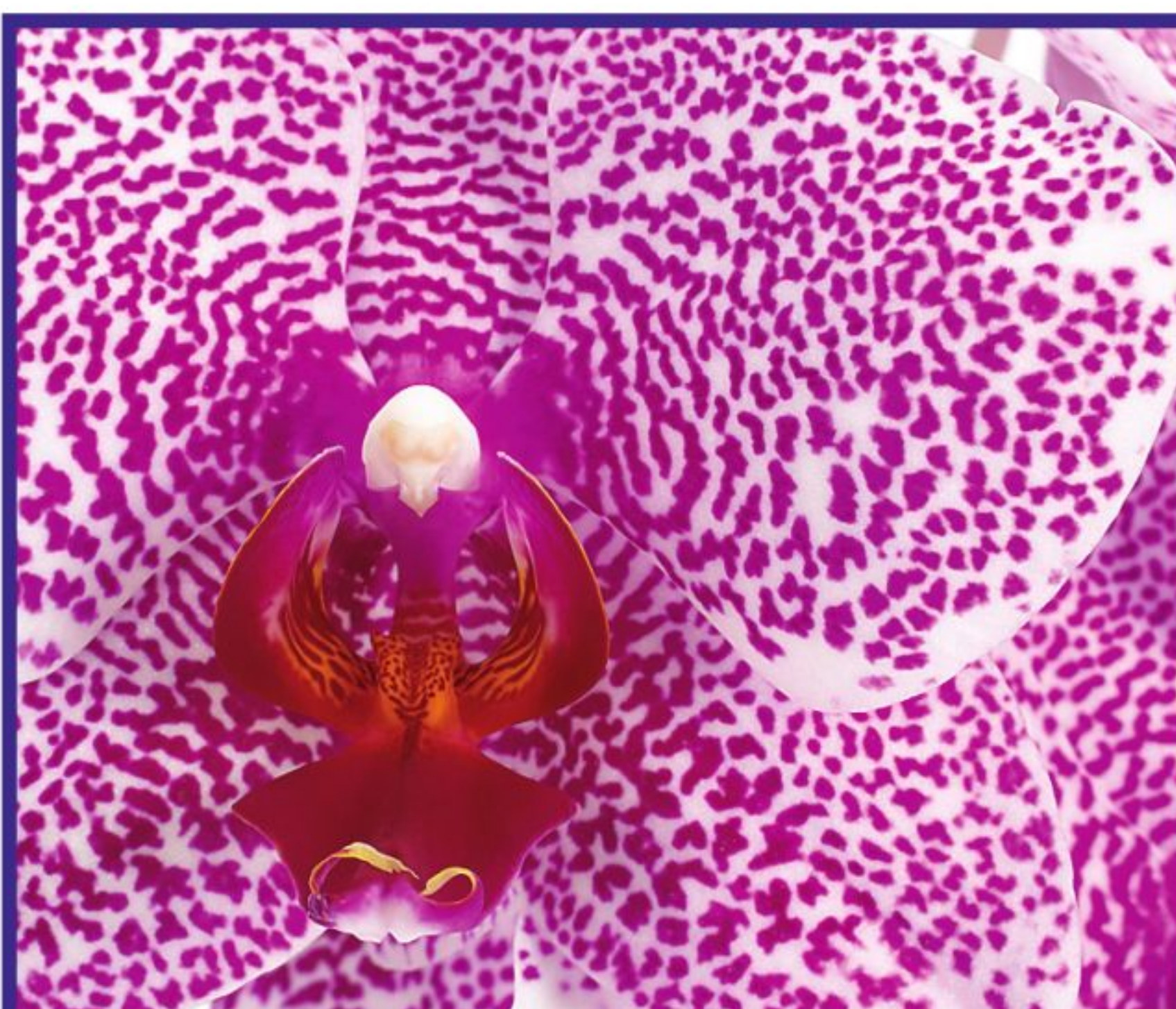
E S A R T A S



E D **R** B E B A A G C



A **R** Y O S C N



D C R H O I



T M H **E** S A T Y

JOKE: What's a cat's favourite colour?

ANSWER: P P

AMAZING EXPLORERS

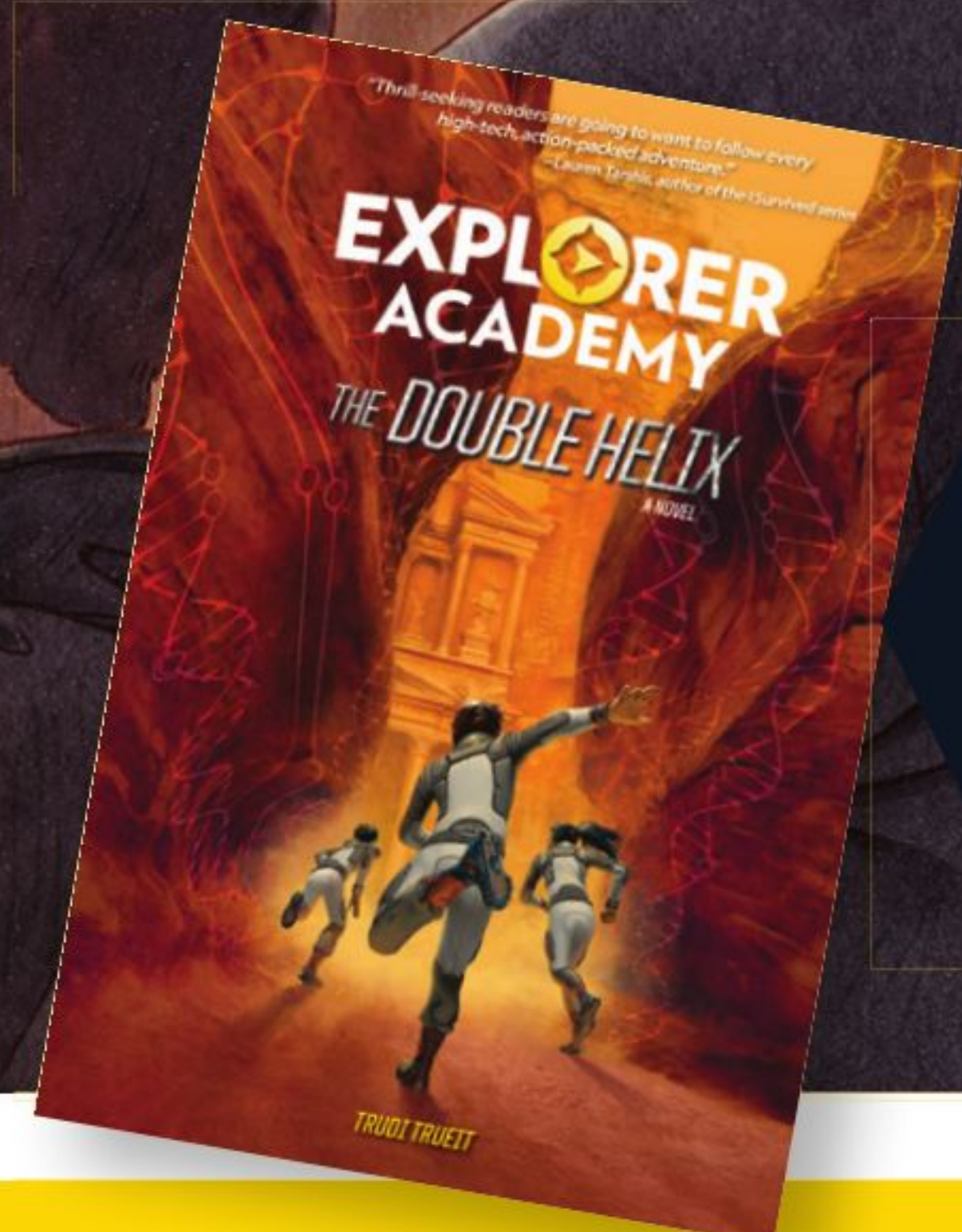
In the new book *Explorer Academy: The Double Helix*, 12-year-old Cruz Coronado and his friends travel the world to learn about fascinating cultures and creatures. Can you find the last names of the 24 historical explorers hidden in this wordsearch?

Answer
on page
47

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

- ADAMS
- AMUNDSEN
- BARET
- BELL
- BIRD
- BLY
- COOK
- COUDREAU
- DRAKE
- ERIKSON
- GOMES
- HENSON
- HILLARY
- KINGSLEY
- LIVINGSTONE
- MAGELLAN
- MENDOZA
- POLO
- RALEIGH
- SCOTT
- SHACKLETON
- STANLEY
- TASMAN
- VESPUCCI

Cruz
and his friends,
Emmett Lu and **Sailor**
York, hope to find a
piece of a puzzle that
Cruz's mother left
behind in **Petra**,
Jordan.



CHECK
OUT
THE
BOOK!

FIND THE HIDDEN ANIMALS

Animals often blend in with their environments for protection. Find each animal listed below in one of the pictures, and then write the letter of the correct photo next to each animal's name.

Answers on page 47

1. American alligator _____
2. Gray tree frog _____
3. Eastern screech owl _____
4. Black-tailed deer _____
5. Black rhino _____
6. Feather star shrimp _____



FUN STUFF MAKE IT

RATTY COOKIE

Who says rats aren't sweet? Celebrate Chinese New Year with these yummy little rodents!

What you'll need

- ½ cup peanut butter
- ¼ cup butter, softened
- ¼ cup sugar
- ¼ cup brown sugar
- 1 small egg
- ½ teaspoon vanilla extract
- ¾ cup all-purpose flour
- ¼ teaspoon baking powder

To decorate:

- Peanuts split in half
- Raisins cut into pieces
- Glacé cherries (optional) chopped into little bits
- Fruit roll cut into smaller strips, or strawberry shoelace sweets

Start here!



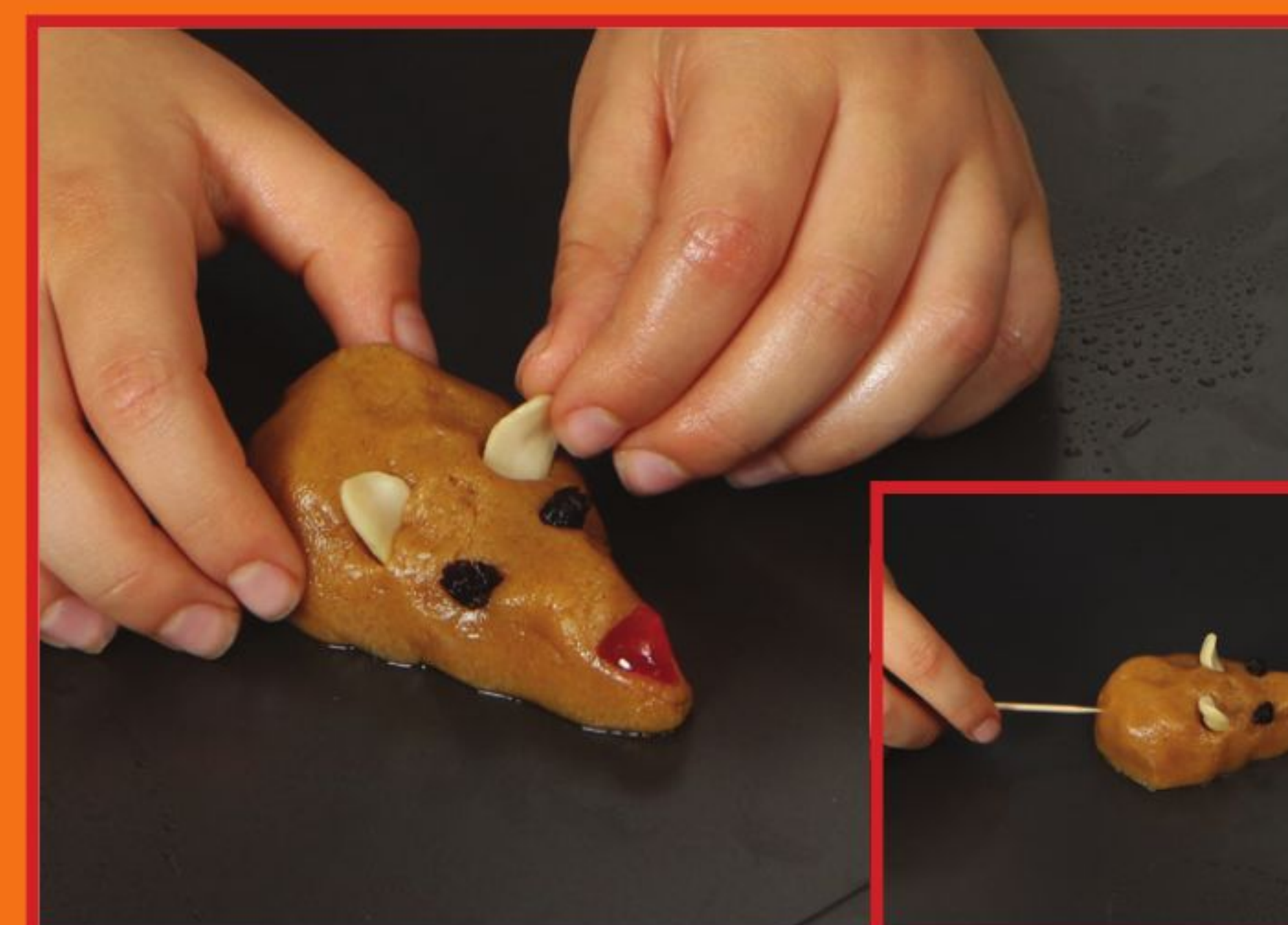
- 1 Put the peanut butter, sugars and soft butter into a bowl and mix together until blended.



- 2 Add the egg and vanilla essence and mix everything up.



- 3 Gradually sieve in the flour and baking soda, and then beat it all together to form a soft dough. Put the dough mix into the fridge for about an hour to make it easier to shape.



- 5 Add a couple of bits of raisin for eyes, a bit of cherry (or another raisin) for a nose, and two peanuts for ears. Now poke a hole in the rat's 'bum' using a cocktail stick – this will be for the tail!

Makes
15-20
cookies!

TOP TIP
If you prefer, try
using sunflower
seeds for the ears
instead of
peanuts!

Happy
Chinese
New Year!



FUN STUFF ANSWERS



4 Preheat the oven to 175°C. Meanwhile, roll bits of dough into approx 3cm-wide balls, place on a baking tray, then pinch together one side to form a pointy face.



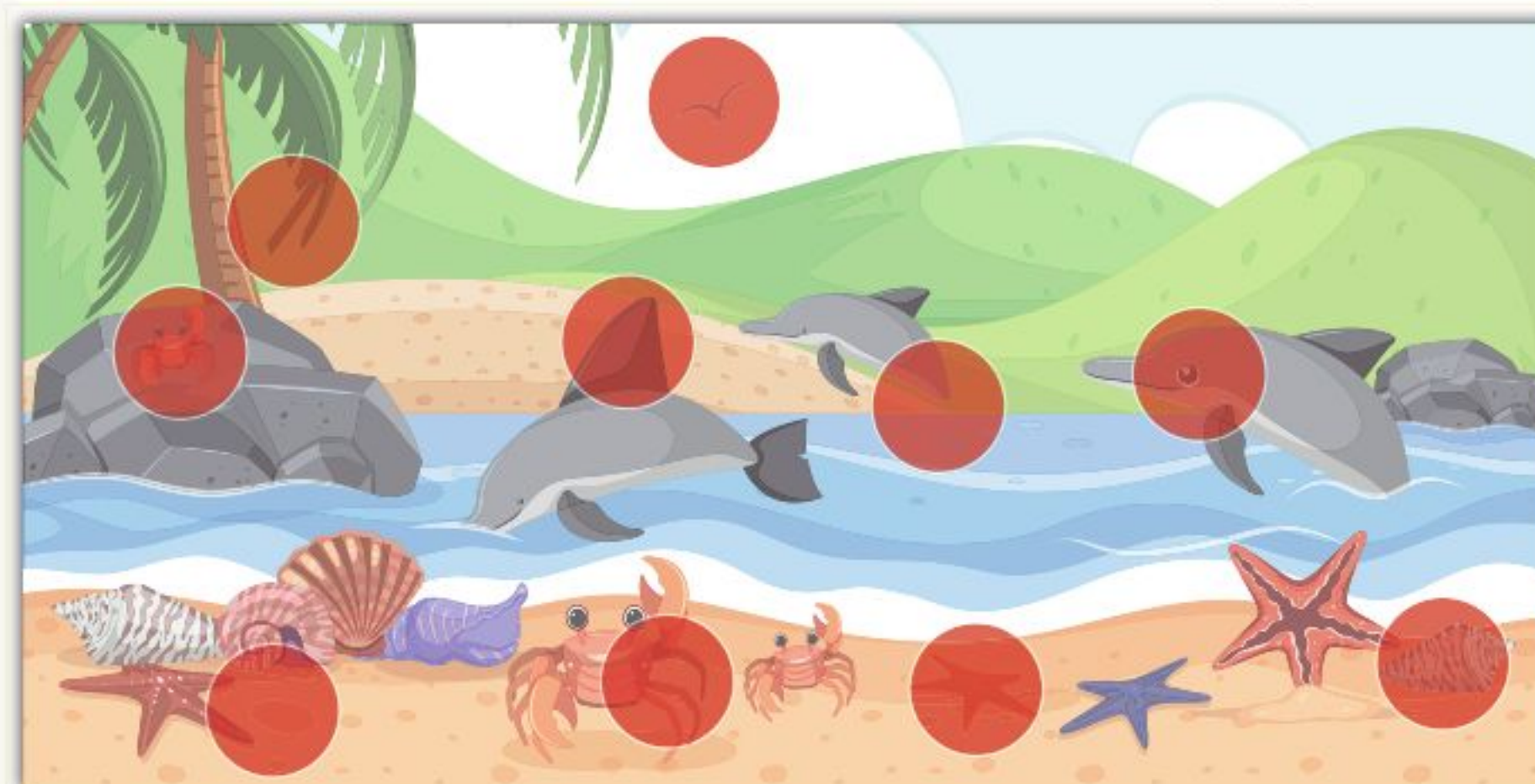
6 Bake in the preheated oven for 8-10 minutes. Place cookies on wire racks to cool, and while they're still soft poke in the fruit-roll tails. Enjoy!

Thanks to George. Photos © Tim Roney

BONKERS BEAST (page 15)

The animal mash-up has a **tiger's head**, **orangutan's body** and **duck's feet**

SPOT THE DIFFERENCE! (page 42)



WHAT IN THE WORLD (page 43)

Top row: plums, wool, sea fan. **Middle row:** shoelace, sea star, red cabbage. **Bottom row:** crayons, orchid, amethyst. **Bonus:** *Purrrple*

FIND THE HIDDEN ANIMALS (page 45)

1. C, 2. A, 3. F, 4. D, 5. E, 6. B

AMAZING EXPLORERS (page 44)

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

THE LAST LAUGH

Q. When will the tiny snake arrive?

A. I'm not sure, but it won't be long!

Q. Why did the cookie go to hospital?

A. Because it felt crummy!

Q. Why wouldn't the dinosaur wear deodorant?

A. It didn't want to be ex-stink!

Q. What do you call a millionaire elf?

A. Welfy!

Q. Why did the lady get fired from her job at the coin factory?

A. She stopped making cents!

Q. What do you call a load of clever trees?

A. A brainforest!

Q. What kind of match is hard to get out of the box?

A. A wrestling match!

Q. Why was the broom late?

A. It over swept!

weird but true!

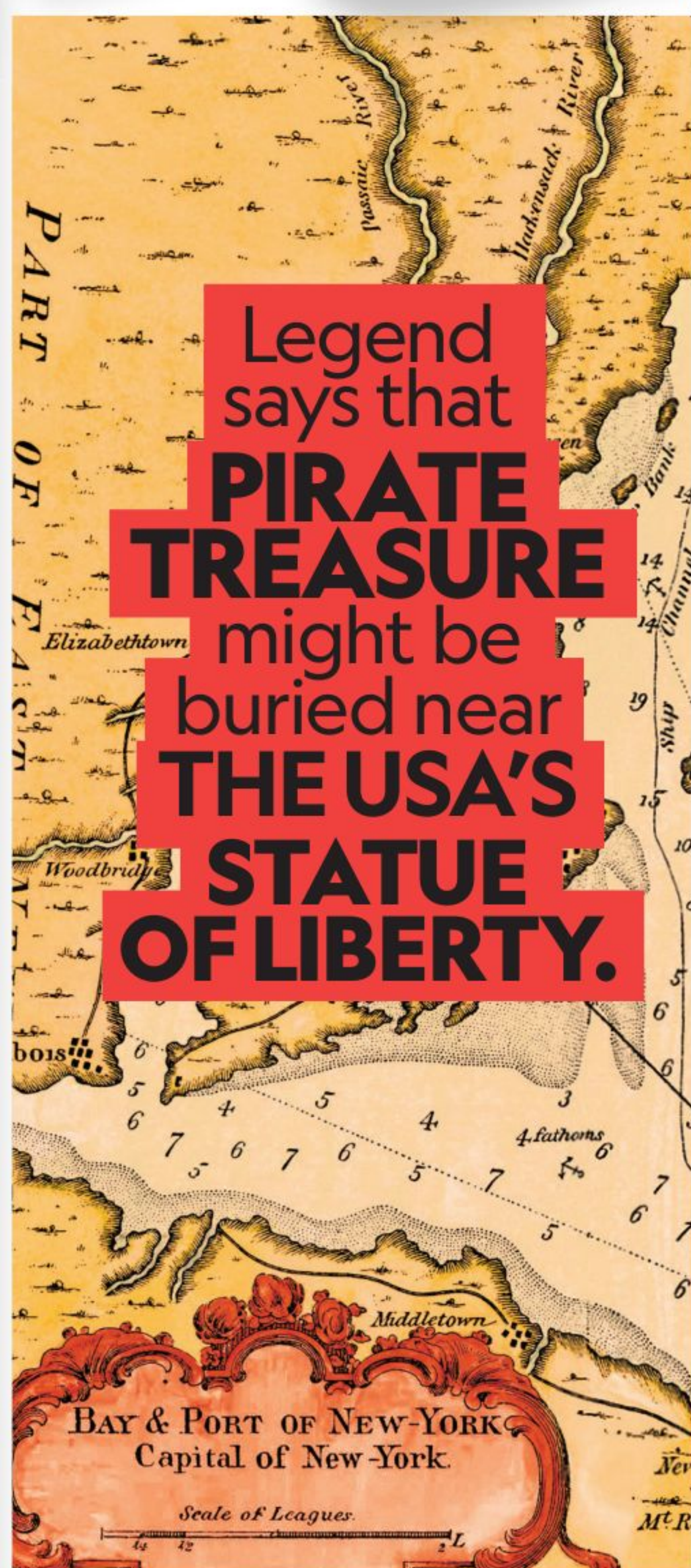
Check out these outrageous facts...

An **AUSTRIAN ORCHESTRA** plays **MUSICAL INSTRUMENTS** made from **VEGGIES.**



A **DOG** may **YAWN** after seeing a **HUMAN YAWN.**

Oi!
My story
wasn't that
boring!



Legend says that **PIRATE TREASURE** might be buried near **THE USA'S STATUE OF LIBERTY.**



Some experts think **HONEYBEES** all have different **PERSONALITIES.**



NIGHTTIME RAINBOWS are common at **Yosemite National Park, in the USA.**



ABOUT **300** DIFFERENT **LANGUAGES** ARE **SPOKEN** IN **CHINA.**



Australia's **RHIZANTHELLA FLOWER** spends its entire life **UNDERGROUND.**



The **Mwanza flat-headed rock agama lizard** is nicknamed the

SPIDER-MAN LIZARD.



GIANT WAGON



Santa would need a lot of **elves** to fill this whopping wagon with presents. At **7.9m long** and **3.3m tall**, the *wheelie* big cart, made in Chicago, USA, weighs **6.7 tonnes** – making it the **world's largest toy wagon**. The same weight as **15 grand pianos**, it can carry **75 kids**, and we're guessing it would need more than **nine reindeer** to pull it!



Imagine the pressies you could pack into this big beast!



VERY IMPORTANT SHEEP



This sheepy soldier preferred to **graze in the gardens** instead of eating in the **mess hall**. The **Swaledale ram**, called **Derby XXX**, is the **highest-ranking sheep** ever. Promoted to a **lance corporal** in the **British Army** back in **2015**, Derby XXX served as the official mascot of the **Mercian Regiment**. He was even awarded a **service medal** for his part in a **peacekeeping tour** in the **Middle East**. Derby XXX, we salute you.

COOL CAR FLIP!

This image was created using six separate shots of the vehicle at each phase of the 1.5-second-long barrel roll.



Buckle up! Stunt driver **Terry Grant** holds the record for **farthest barrel roll in a car**, flipping his vehicle **270 degrees** off a ramp to land safely **15m** from where he started. Terry practised the jaw-dropping trick for **six months** before performing in front of an audience at the **ExCeL Centre** in **London**. That's quite a road show!

WACKY WORLD!

Check out the planet's strangest pictures...

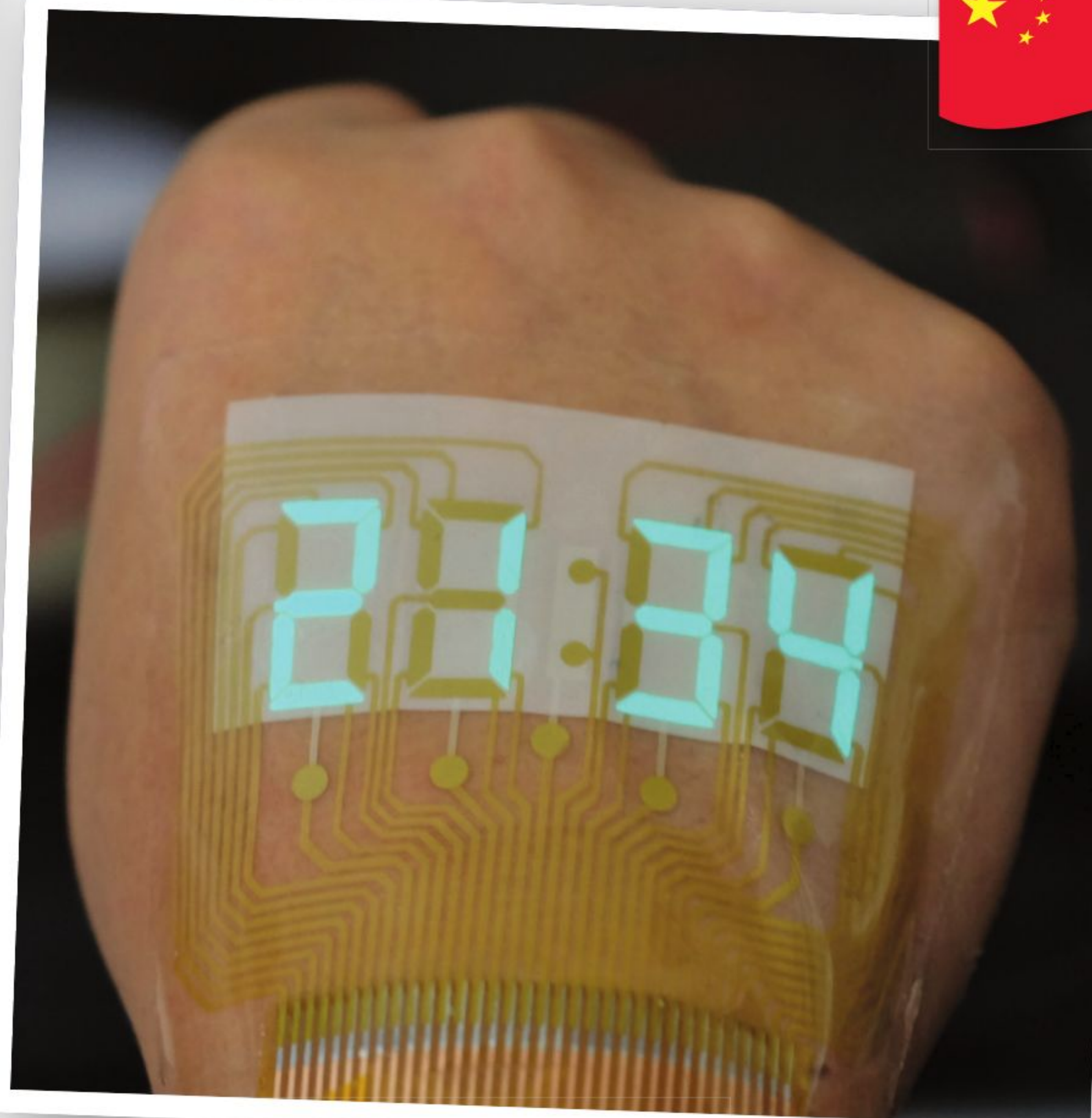


Turkey for dessert?!

British baker **Sarah Hardy** had **raw turkey for dessert** this Christmas. Well, kind of. She baked a **cake** that *looked* like an **uncooked bird**. Ugh! "It was made as a surprise for my family and it certainly worked!" she says. "I rather like that it's repulsive and attractive." Hmm...

Skin stopwatch

Scientists in **Nanjing, China**, have created a **stretchable stopwatch** that **sticks to the skin** like a **temporary tattoo**. How cool?! Would YOU wear one?



Inflatable film stars

These were some of the crazy **movie characters** who took to the skies at the recent **International Balloon Festival** in **Leon, Mexico**. Which of the Hollywood hot air balloons is your fave flyer?



CART-ASTROPHE!

People in **Medellín, Colombia**, had a *wheelie* fun time in November when they piled onto home-made go-karts and hurtled around the city's steep streets during the **30th Roller Cart Festival**. Hope nobody fell off!



FANCY PHONE

Wanna get your hands on this mega **mobile phone**? Well, the modified **iPhone 11 Pro** is covered in **half a kilogram of gold** and **137 diamonds** – and will set you back a cool **\$104,000**. Whoa!

HEEL-Y SILLY!

Have you ever worn a pair of **high heels**? Well, these folk in **Chongqing, China**, were snapped **running 100 metres** in them. Stewth!



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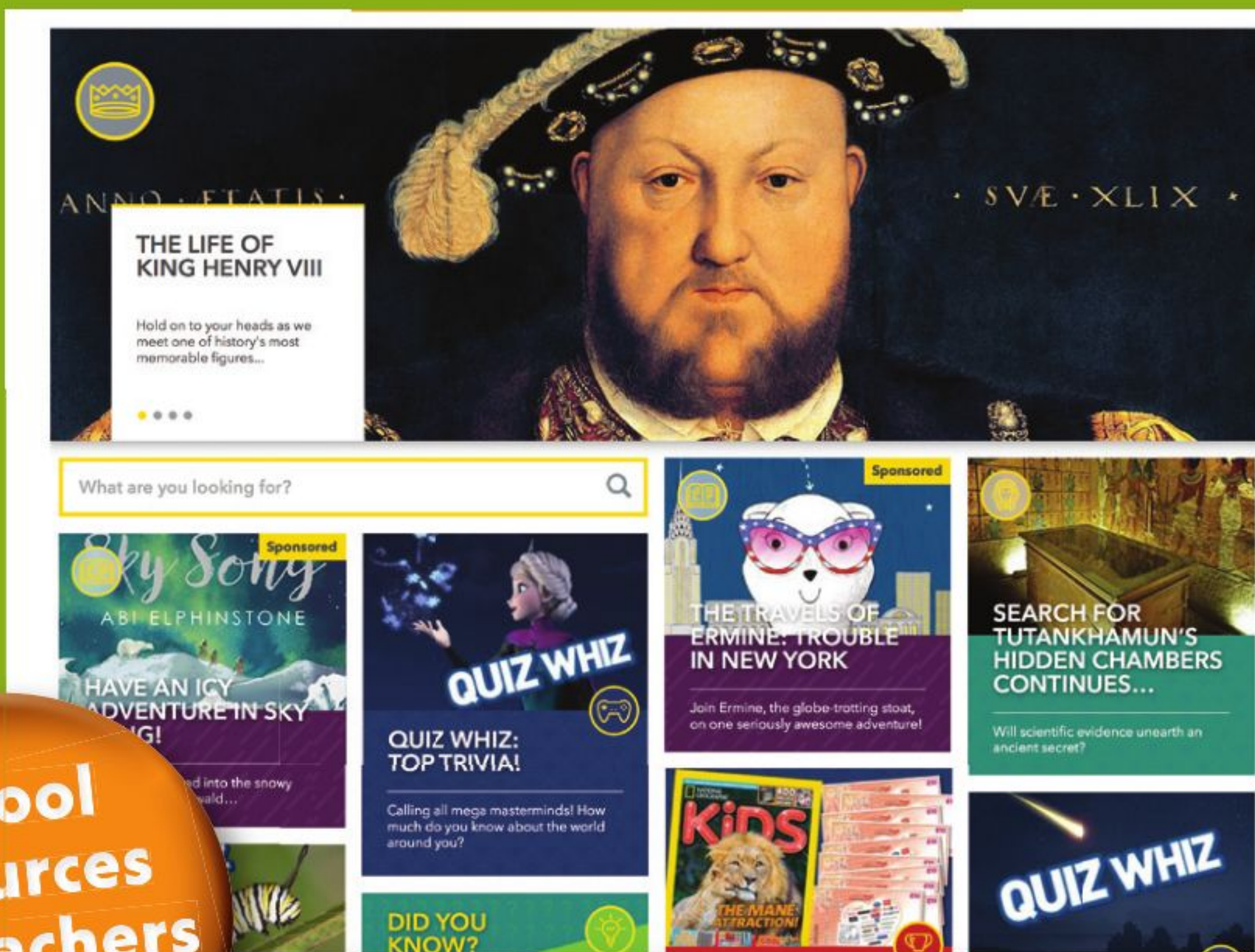
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