

Made
in **RSA!**



Celebrating
10 Years
Super
nova

supernova

The mag for curious kids

explore the

BIOMES

of
South Africa

Vol
10.2



PUZZLES | SCIENCE | NATURE | ACTIVITIES | SPORTS | COMICS



Story and artwork
Maya LeMaitre

MIMI'S LIFE ON MARS



WHO'S EXCITED ABOUT OUR CLASS TRIP TO SPACE NEXT WEEK?!

ME!

MEEE!

ME!



MISS, I'VE NEVER BEEN BEFORE.



DON'T WORRY, LUCAS. IT'S SAFE AND COMFY-LIKE RIDING A HOVER TRAIN. AND IT'S FUN!



MS. KHUMALO, DID PEOPLE GO TO SPACE IN THE OLDEN TIMES?



SOME DID- USUALLY HIGHLY TRAINED ASTRONAUTS. SOMETIMES THE MISSIONS WERE DANGEROUS!



WEALTHY PEOPLE ALSO SPENT A LOT OF MONEY TO GO TO SPACE AS TOURISTS.



BY THE 21ST CENTURY, ORDINARY PEOPLE BEGAN VISITING.



WELL, I THINK THAT'S MUCH BETTER!



YEAH! SPACE SHOULD BE FOR EVERYONE, RIGHT? NOT JUST RICH PEOPLE.

NOD



THAT'S TRUE! SPACE TRAVEL HAS COME A LONG WAY SINCE THEN.



THESE DAYS, ANYONE CAN GO. OUR SPACESHIPS ARE CLEAN AND WASTE-FREE, SO THE PLANET ISN'T POLLUTED OR HARMED.



WE NEED A BALANCE BETWEEN EXPLORING THE STARS, AND CARING FOR THE PLACE WE COME HOME TO.

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Hi SuperKids



Candice

Wow, what a busy and jam-packed year it has been! Our *Supernova* team has achieved so many great things – like publishing our 55th magazine – and celebrated many wonderful milestones – like *Supernova's* 10th birthday!

When the days and weeks get so busy, it's hard to take a moment to look back and appreciate all of the great things that you have achieved. But, it's super important! Not only will it motivate you to keep succeeding, but it reminds you to be proud of yourself. Being proud of yourself can help you feel content and grateful, and usually makes you good at motivating others.

We know this new issue of *Supernova* is sure to keep you entertained for hours on end during the holiday period. How could it not, when there are South African biomes to explore, extravagant fashion to gaze at, new technology to ponder and codes to crack? Not to mention, learning more about sport physiotherapy, uncovering the hidden history of our favourite sports, and practicing mindfulness with some fun yoga poses! Don't forget to send us some photos of you enjoying your *Supernova* magazine during the holidays. That way, we know that you are enjoying our proud work. Stay curious, kids!

Get to know the Supernova Team!



Su-Mia
Writer and Content Creator

Hey SuperKids! I'm Su-Mia! I write articles for *Supernova*. I also help plan the magazine, do the layout of articles, proofread and work at events.

What is your spirit animal?

A baby elephant. Because I believe that even if you can get your way by stomping over everything, you should be gentle instead. It's a baby because I'm still a kid inside and I'm very small.

What's your favourite thing about being at *Supernova*?

I love that I get to learn something new with every article!

Would you rather see everything in slow motion or in fast forward?

Slow motion. I would love to see my dog Noah drinking water or shake himself off after swimming in the dam in slow motion.

Can you play an instrument?

Yes, I play the guitar and the triangle. I really want to learn how to play the ukulele, because it seems like it would be nice and portable.

Would you rather own a horse the size of a cat or a cat the size of a horse?

A horse the size of a cat, because a tiny horse is cute, but a giant cat is terrifying.



Rosie and I love to go riding on the spur of the moment. Except when it's pasture bedtime. Get it?



I adopted my ridgeback, Noah, in 2020. He's only four years old, but he's just as big as me!

ISSN: 2224-1442
EMAG ISSN: 2413-8207
Legal deposit: 12/2021

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Published every two months by:
BK Publishing (PTY) LTD

Reg: 2015/060893/07



P.O. Box 6314
Pretoria
0001
South Africa
T: +27 12 342 5347
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Printed by:
Zero Plus Printers
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Brain Games

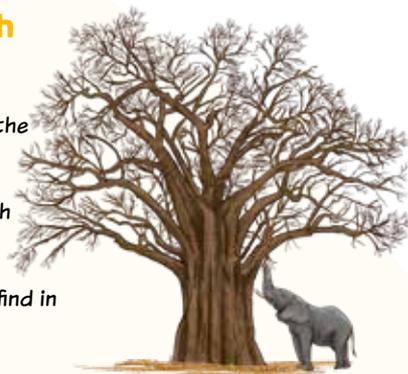
Crack a joke

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The Features

28 Biomes of South Africa

If you travel across South Africa, you'll notice that the landscape, animals and plants change! This is because SA has nine different biomes, which each have diverse characteristics. Let's take a look at some of the animals, birds and plants you'll find in each biome!



33 Make a hanging plant terrarium

Grab your craft kits! It's time to bring some greenery into your life and save the planet from plastic pollution by creating these beautiful hanging plant terrariums.



34 High fashion through the ages

What garments, jewellery, accessories and over-the-top head pieces would you have needed as a 14th century Incan nobleman or a 17th century upper class lady? We'll give you the rundown on some of society's most extravagant outfits across different cultures that were used as symbols of status.



Interview with a guide dog

Meet Juno: the 20-month-old Labrador with soft fluffly ears, big brown eyes, and a very waggy tail! Juno is a typical Labby in many ways, but he has a special purpose – he's going to be a guide dog when he grows up! Read about Juno's life and future as a guide dog.



38

44 Silly things adults say

Have you ever been told that if you swallow watermelon pips, then a watermelon will grow out of your ears? Sometimes adults say the silliest things! Let's have a look at some of these silly things and explore just why they're silly in the first place!



Answers for Brain Games on page 48.

How are false teeth like stars?
They come out at night.

What kind of shoes do ninjas wear?
Sneakers.

How do we know that the ocean is friendly?
It waves.

How does the scientist freshen her breath?
With experi-mints.

What did the Dalmatian say after lunch?
That hit the spot.

Ask Jules?



Jules

What a great and important question! When there is a serious outbreak of an illness like the flu, swine flu or Covid-19, doctors and scientists work hard to create treatment plans or vaccines to keep the illness from spreading to more people. When people are vaccinated against a disease, they are purposely given a small bit of the bacteria or virus that causes the disease. They can receive the vaccine in a shot, by mouth or by nose spray. The virus in the vaccine is dead or weakened, so it doesn't cause severe symptoms. This triggers your immune response and antibodies are created to help fight the illness. So, you can think of a vaccine as a practice run for your body. And the best part? Your body will remember how to fight off the real illness if you encounter it in the future.

How do vaccines work?



Reader Corner

Take a step into the world of Wollves!

Supernova reader Prince Makhafola (13) shared with us the crafty cartoon he created called *Wollves*. He was inspired by the *Manga of Naruto* to create his own anime!

Here is what he had to say about his comic: "*Wollves* is about an orphaned boy named Prince, who becomes friends with Tod. Tod betrays him and leaves him to die, which awakens Prince's inner wolf which has been with him for years.

After being befriended by a girl named Tracy, they go to another world. There he meets a lot of people his age who are trying to defeat an extremely powerful villain named Robi. Little does Prince know that his former best friend Tod is working with the powerful villain Robi to take over everything in existence and take over the five kingdoms. Prince is not only going to try to defeat Robi, but he will also find out what happened to his parents. I can guarantee that Prince is going to have the adventure of his life!"

We can't wait to see what happens next, Prince!



Jules

Send your cool creations to supernova@bkpublishing.co.za and you could be part of our Reader Corner!





Meet the Dingo Kids

Imagine spending your day collecting eggs, dehorning rhinos, feeding lambs, training parrots, and tending to 200 snakes... that's the everyday reality for the Dingo Kids – TJ (11), Maddy (9) and Josh (6). The Dingo Kids live on a farm in the Hillcrest area of KwaZulu-Natal, which is also home to a wide variety of creatures like chickens, cows, pigs, goats, sheep, crocodiles and snakes!

The Dingo Kids help their dad, Dingo Dinkelman – a South African wildlife crusader and YouTube sensation – with all sorts of conservation projects. They help dehorn orphan rhinos to protect them from poachers, relocate wild lions, endangered brown hyenas and pangolins, and release indigenous snakes back into the wild.

Now, the Dingo Kids have launched their own Dingo Kids YouTube Channel! They introduce viewers to new animals, show how they are cared for and explain why they're so important to nature. Check out their videos on feeding crocodiles, caring for their lambs, and welcoming an arrival of teacup pigs! One thing is for sure... their passion for conservation and educating others about animals will inspire our next generation of wildlife crusaders!



Maddy, age 9



Josh, age 6



Photos by Kirsty Dinkelman

“It's up to us to look after our wildlife, so we need more people to become part of the Dingo Kids team. We need all the help we can get!”



Jules

Check out the Dingo Kids YouTube channel every Tuesday for a new episode!

Creature FEATURE

Star-nosed moles definitely are one of the world's weirdest looking animals! If you were to come face-to-face with one, you might think that its head had been replaced by a tiny octopus.

However, for an animal that's nearly blind, the star-nosed mole is mind-blowingly quick and is classified as the world's fastest eater! It can find and gobble up an insect or worm in a quarter of a second. Their speediness is also helped by their 44 teeth. As a result, star-nosed moles are recognised by Nature magazine as the fastest-eating mammal – requiring just 120 milliseconds to detect and devour their prey.

This is accomplished by the 22 pink appendages (called 'rays') that ring its snout which are actually incredible organs that contain 25 000 minute sensory receptors! Their nose isn't just used for smelling – it's mostly used to feel around and hunt prey in darkness. The mole does this by bopping its star nose against the ground rapidly; it can touch up to 12 different places in a single second! Their smell is also so good that when their noses aren't being used to identify food by touch, they can actually detect seismic wave vibrations within the Earth. They can even smell underwater by exhaling bubbles and then inhaling those bubbles back in!



Photo: Wayne T. Helfrich



Photo: Agnieszka Bocal

Spectacular photos of the sky

The Northern Lights

Photo by Alessandro Cantarelli

This stunning image of the northern lights is part of a 180-degree panorama photograph captured in Norway. The photo was taken during a tour of the Lofoten Islands on a magical night, during a sunset!

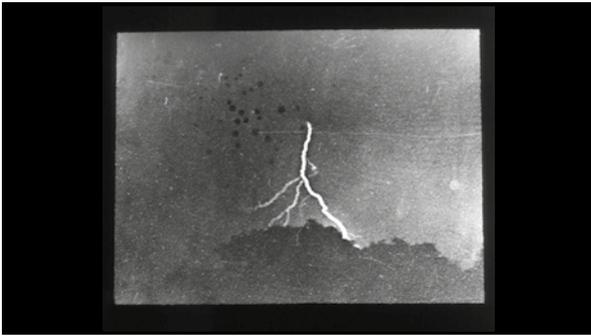
The northern lights (also called the aurora borealis) appear when tiny particles from the Sun hit the Earth's atmosphere. They mix with gases in the atmosphere, causing the gases to glow. These lights occur most often around the North Pole and South Pole because the incoming particles have an electric charge. As the particles arrive, Earth's magnetic field guides them toward the poles.

The northern lights are typically green, purple, red or blue, and even though they look close enough to touch, are generally found between 90 km and 130 km above ground level.



First photograph of lightning

Photo by William N. Jennings



In 1882, Jennings set to prove that lightning was more volatile than just zigzags in the sky. But, the first photograph of lightning may have actually been taken in 1847 by Thomas Martin Easterly! #stealinghithunder #howshocking #inwithabang



Lenticular clouds

Photo by Gary Crabbe



These clouds get their name from the fact that they're shaped like a lens or a saucer. They are also believed to be one of the most common explanations for UFO sightings across the world! #it'ssofluffyicoulddie #outofthisworld #forcryingoutcloud



Upside down rainbow

Photo by Mark Knight



Unlike rainbows, where sunlight refracts through raindrops, upside down rainbows – or circumzenithal arcs – occur when sunlight refracts through ice crystals, held in cirrus clouds. #shedsomelightonthesubject #hideyourpotofgold



Orion Nebula

Photo by Litobrit



This gigantic cosmic cloud of dust and gas forms new stars. At 1500 light years away, it is the closest major star-forming region to Earth! #spacetogrow #gasisgood #astarishborn #oriondealit



Polar stratospheric clouds

Photo by Glenn Browning



While these mother-of-pearl clouds are really pretty, they actually destroy our ozone layer! They have contributed to the formation of an ozone hole in the Antarctic and Arctic. #beautyisabeast



Milky Way

Photo by Besancon Arnaud



The Milky Way is made up of over 200 billion stars. Its current size and shape is due to its eating up of other galaxies, and it is still doing so today! #shoottheregoesmystar #galaxymuncher

Samuel Coleridge-Taylor

The first major classical African composer

Musical composer and conductor Samuel Coleridge-Taylor grew up in Holborn, England. He was born on the 15th of August 1875, to a physician from Sierra Leone and an Englishwoman.

His name was given to him after the famous poet Samuel Taylor Coleridge who, curiously, became a great source of inspiration during his career.

Samuel was raised in a family of keen musicians. He revealed his musical talents at the age of five, and began studying the violin at the age of seven.

Suffering racial insults at school, including one incident in which his curly hair was set on fire, Samuel devoted himself to the violin with extra intensity.

His talent and affinity towards music was obvious, so he was encouraged to join the Royal College of Music in London when he was just 15 years old. It was here that he perfected his technique.

The Royal College of Music hesitated over Coleridge-Taylor's race, apparently worried that other students might object. After two years at the college, Samuel swapped violin for composition.

The bright young composer made his musical debut with 'Ballade in A Minor', for which he was called "a genius" by music publisher August Jaeger.

Samuel was always conscious of his African descent and so his classical compositions were heavily influenced by traditional African music. This made him one of the most progressive writers of his time.

His work across music and politics was so well received that in 1904, he was even invited by President Theodore Roosevelt to visit the White House – a bold statement and a positive step forward for African Americans.

Samuel died of pneumonia on the 1st of September 1912, at the age of 37. Throughout his short life, he faced financial struggles and personal tragedy, which are both often linked to his early demise.

Both of his children also had distinguished careers as conductors and composers. His son, Hiawatha, adapted his father's works and his daughter, Gwendolyn, became a conductor and composer using the professional name Avril Coleridge-Taylor.

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Sports Physiotherapist



Hi, I'm Kyle Meyer!

I am a qualified physiotherapist working at the Vodacom Bulls. Practising physiotherapy aligns with my personality and allows me to combine my passion for serving others with taking on various challenges.

Layout by
Su-Mia Hoffmann

What is a sports physiotherapist?

A sports physiotherapist is a physiotherapist with a special interest in sports and exercise related injuries. They are dedicated to the assessment and treatment of these injuries at all levels and age groups.

What does a typical day look like for you?

Working in a high-performance environment, I do not have set working hours. I need to be available when the team needs me. Typically, I have morning meetings with the medical team, as well as the coaching staff to discuss the injury status of players. I consult six to eight injured players per day. In between those consultations, I attend field sessions to provide field-side physiotherapy as needed. The day ends with a debrief meeting.

What qualifications do you need to do your job?

Working as a sports physiotherapist for a professional sports team, it is essential to have an undergraduate qualification in Physiotherapy with a minimum of four to five years of post-graduate experience in a high-performance environment.



Photo by Johan Rynners

What is the most interesting part of your job?

The types of injuries that I manage and the ability of an elite athlete to recover faster from an injury is so interesting. I managed an injury that, based on its severity, would usually take six to eight weeks to recover. It took this athlete just two weeks to recover!



Photo by Johan Rynners



Photo by Johan Rynners

What are some of the challenges of your job?

It is my job to make sure athletes understand the importance of maintaining mental and physical well-being. I also need to communicate clearly with coaching and medical staff on the rehabilitation process of an athlete. It's also important that I manage and prioritise the urgent recovery of injured athletes so that they may return to play as soon as possible. To do this, I plan a rehabilitation program which minimises the chances of the injury re-occurring.

K Kyle's advice

If you have a passion for helping others and find happiness in taking part in exercise and sport, then sport physiotherapy may be an ideal career path for you!



The Prince Edward Islands

Words by
Andrea Vermaak



Prince Edward Islands



I had no idea that the Prince Edward Islands were part of South Africa! The Prince Edward islands are restricted, so I had to make special arrangements to visit.

I asked Ant to introduce me to the research and conservation management team there. This is what I learnt...

Lost and found

Barent Barentszoon Lam of the Dutch East India Company discovered the islands on 4 March 1663. He incorrectly recorded their location, so neither were found again until 1772. Marc-Joseph Marion du Fresne rediscovered them. He was a French privateer, East India captain and explorer.



The Prince Edward Islands are two small islands in the Subantarctic Indian Ocean that are part of South Africa. The islands are named Marion Island and Prince Edward Island.

Then, on 13 December 1776, James Cook passed the islands and named them after Prince Edward, Duke of Kent and Strathearn from 1767 to 1820. Sealers and whalers later named the larger island after Captain Marion to distinguish the two islands.

The first recorded landing was as late as 1803 when sealers found a way ashore.

Volcanic origins

The islands are of volcanic origin. Marion Island is a peak of a large, active, underwater shield volcano that rises about 5 000 m from the sea floor. The last eruptions occurred between 1980 and 2004.

Lay of the land

Though the islands are part of South Africa, they're found in the Subantarctic Indian Ocean about 1 769 km south-east of Gqeberha (previously known as Port Elizabeth).

Prince Edward Island is only about 45 km² and is about 22.2 km to the north-east of Marion Island. The island is quite rocky and has high cliffs (about 490 m high) on its south-western side.

Marion Island has an area of 290 km². It's coastline of mostly high cliffs is 72 km long. Inland is very hilly with small lakes and boggy lowlands. There's little vegetation except grasses, mosses, small ferns and lichen.



The icy climate and jagged, volcanic landscape of the island might not be ideal for humans, but it is an important refuge for many penguins, albatrosses and other marine species.



Protected

The islands are Special Nature Reserves, protected by SA. Thousands of seals live on the islands.

The islands are also declared an Important Bird Area. Millions of birds, including penguins, gulls, petrels and 40% of the world's wandering albatrosses live on the islands.

The area is also a Marine Protected Area. Patagonian toothfish in particular are protected. Groups of killer whales are also sometimes seen around the islands.



There are no trees on the islands due to the persistent, strong westerly winds known as the 'Roaring Forties'. The windiest month of the year is July, with an average hourly wind speed of 40 km/h!

Far out man

The only people allowed on the islands are those who work at the Marion Research Station. Some study weather and climate change, while others study the local wildlife for months at a time.

The cold, wet weather can get so bad, that a few of the team said they've swayed in their bunk beds, or got motion sickness when the westerly wind blows. They say it's all worth it though!

These shoes were made for talking

Supernova

I always leave my shoes at the door, so that I don't need to look for them when I go out. Today, as I was tying the laces of my fav takkies to go to the gym, I just had to ask them a bunch of questions to satisfy my curiosity...

Q: So, I've just tied your laces to make sure you stay on my feet. Can you tell me more about your other parts, like the holes that your laces are thread through?

A: I'm made up of many different parts, but let's have a look at a few of the most important parts and what they do.

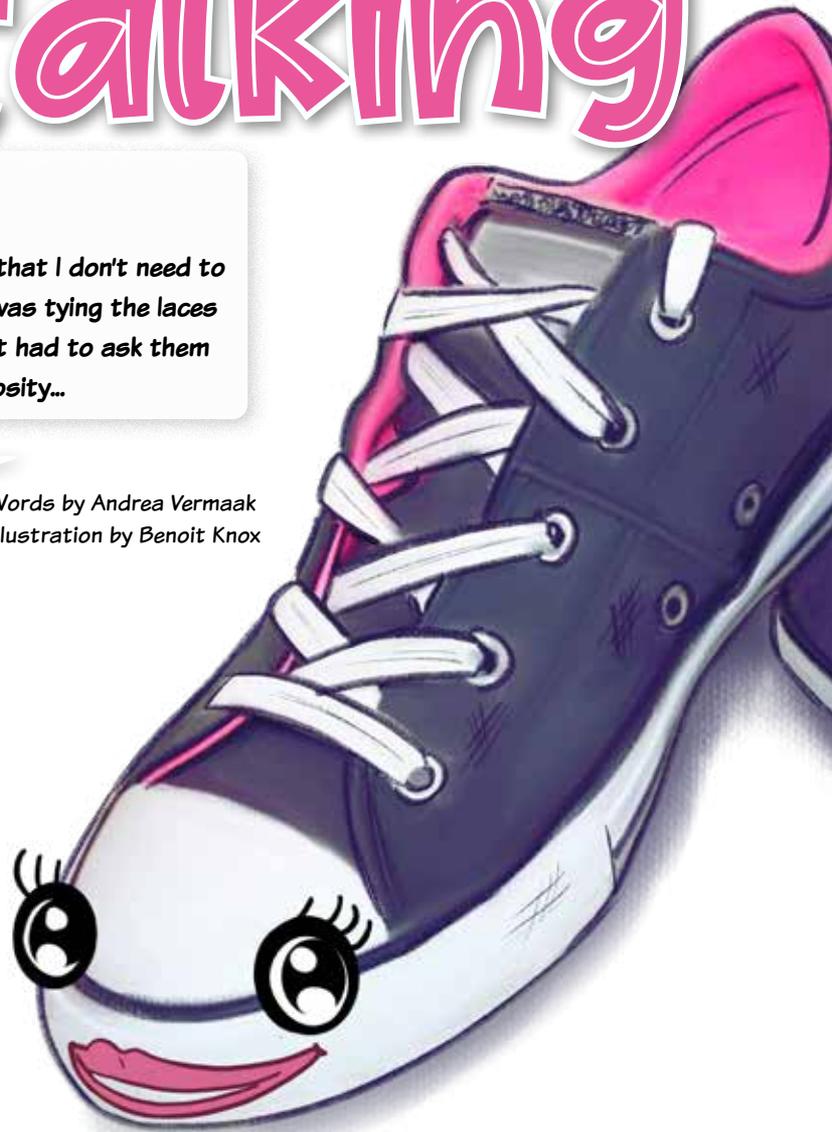
The holes you pointed out on my upper part are called eyelets. They're punched on and reinforced with plastic grommets. Some shoes' eyelets are reinforced with metal grommets.

Aglets are the little plastic tubes at the end of my laces. You get metal ones too. They help to keep the laces from unravelling and make it easier to thread them through my eyelets.

Get this!

Ever heard of the term "two left feet"? Until 1818, shoes made for left or right feet were exactly the same! The first pair of right and left footed shoes were made in Philadelphia. Obviously, shoes weren't made for comfort up to this point.

Words by Andrea Vermaak
Illustration by Benoit Knox



My tongue lies just under my upper part. It's very flexible and helps to protect your foot from shoelace grazes. It also helps to spread the pressure over your foot.

My sole is below your foot. The inside part that your foot is touching is the insole. I then have a midsole that gives you extra suspension while walking, but many shoes don't have a midsole. My outsoles (the part touching the ground) are made of rubber, but other shoes' soles may be leather, or plastic. The outsole helps me to last longer and helps you to walk around easily.

Q: You didn't always look like this? What were the first shoes like and how did they develop over time?

A: The oldest shoes ever found are sandals made of sagebrush bark. They were found in Fort Rock Cave in Oregon, USA, in 1938. They date back to about 7000 or 8000 BC.

?! Get this!

Men were the first to wear heels! For centuries, heels signified a high social standing rather than gender. It was also crucial for men riding horses to have a heel on their boot in order to stay in their stirrups.

?! Get this!

People first started calling sneakers their name because they had rubber soles which enabled people to walk or 'sneak' around without making a sound.

Other ancient shoes were made from different materials, depending on where in the world they were worn. In cold climates, people wore simple leather boots to protect their feet. People in warmer climates, such as Egypt, wore papyrus or leather sandals. Some of those sandals are direct ancestors of today's flip-flops.

Our styles and materials used to make us changed over the centuries from wooden clogs and shoes with long pointed toes to shoes with buckles and shoes made of satin.

Today, we're mostly mass produced. We're made from many different materials in a wide variety of styles.

Q: Are different styles used for different things?

A: Absolutely! I can help you exercise, for example. Some of my friends are specially designed for hiking, sports or dancing, for example. Some shoes are specially designed for medical purposes. Dr Klaus Mårten designed his famous Dr. Martens boots, for example, to support his injured ankle during WWII.

Q: I usually wear my shoes until they're very old. What can I do with them after I really can't wear them anymore?

A: Good question! So many of us – about 90% – end up on landfills. You see, our materials are hard to separate, so it's hard to recycle or reuse us. There are a few things you can do though. If we're in good condition, you could resell or donate us. If we're worn out, you could upcycle us. Decorate us, use us as plant pots or use our material to make something else entirely.

Supernova

I stepped out with a new view of my takkies. It's amazing how far shoes have come and it's great to know that even when my shoes have holes in them, I can find a way to reuse them.



What would life be like without your phone?

The thought of living without your phone is unfathomable to most people today! With a few clicks, you can be ordering your favourite meal on Uber Eats or seeing what your friends are up to on Instagram. Is it really possible to live without your phone?

Words by Nikita Abreu
Illustration by Jethro Longwe from 'Archive of Kindness'



LISANDRO (13)

Life without my phone would be unimaginable because there would be no way to contact my friends, no social media to see what people are up to and no online video games to keep me entertained when I am bored.

SN ✓✓



RYAN (10)

I don't have a phone so life would be pretty much like it is right now... wondering how it would be WITH a phone!

SN ✓✓



ZANDILE (23)

I'd be less informed about what is happening around the globe.

SN ✓✓





KAYLEIGH (10) & LEAH (7)

Kayleigh said: "I would be fine without my phone, just would miss being able to take pictures and make fun videos with my sister and cousin."

Leah said: "I would also be fine because I like drawing and playing. But if I wanted to take a photo, play a game or watch YouTube, I would be sad!"

SN ✓✓



KARLA (13)

Life would be a lot more chilled and I wouldn't waste so much time. I would also be more productive and spend more time learning for my exams.

SN ✓✓

GERMAIN (18)

My phone has become so much of a habit that it would be very weird to lose it. I use it every day as a work tool. I also watch series and talk to my friends and my girlfriend. If I didn't have my phone, I don't know at all what I would do! I guess I would read, go out and do activities and spend more time with my family and friends.

SN ✓✓



The Chatroom

Do you want to contribute to the next Chatroom? Follow *Supernova* magazine on Facebook, or subscribe to the *SN Kids Club* newsletter and look out for our questionnaires.

You can also **Whatsapp** us on 012 342 5347.

Life the universe and everything

Words by Candice Robertson
Illustrations by Benoit Knox

The origins of sports

Sports make us fit, fight stress and give us an overall feeling of well-being. Although most modern sports have strict rules and regulations, many of the sports we love originated from simple games that have turned into national pastimes.

Tennis

Tennis as we know it comes from a game played by 11th century French monks called *jeu de paume* (meaning "game of the palm"). When playing, the monks would shout *tenez* ("to take") every time they served the ball. By the 13th century, the game had become so popular that over 1 800 indoor courts were built across France. It became so famous that King Louis IV and even the Pope tried to ban it, as they believed that it distracted from practicing religion. However, they were unsuccessful, and tennis spread to England, where it was taken up by King Henry VII and Henry VIII. Their passion for the game led to tennis becoming known as the Game of Kings.



Cliff diving

This extreme sport dates back nearly 250 years to the Hawaiian Islands. Legend has it that the king of Maui – Kahekili II – forced his warriors to leap feet first off a cliff to land in the water below to show the king that they were fearless, loyal, and bold. Later, cliff diving evolved into a competition in which participants were judged for style and had to make as small of a splash as possible when they entered the water.



Golf

Golf originated from a Scottish game where players would attempt to hit a pebble over sand dunes and around tracks using a bent stick or club. During the 15th century, as Scotland prepared to defend its borders against an English invasion, the rising popularity of golf was thought to be responsible for men neglecting their military training in archery and swordsmanship. So, the Scottish parliament of King James II banned the sport in 1457. Although people mostly ignored the ban, it was only in 1502 that the game gained the royal seal of approval when King James IV of Scotland (1473 -1513) became the world's first golfing monarch.



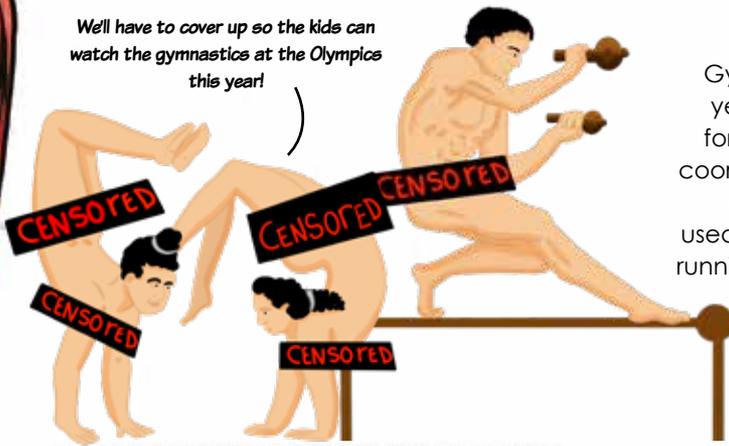
! Get this!

Cliff divers can reach 100-115 km per hour when they hit the water, making injuries a real possibility.

Gymnastics

Gymnastics began in ancient Greece about 2 500 years ago where it was used as a form of exercise for both men and women that combined physical coordination, strength, and agility with tumbling and acrobatic skills. Roman gymnasiums were mostly used to prepare soldiers for battle, with exercises like running, jumping, swimming, throwing, wrestling, and weightlifting.

We'll have to cover up so the kids can watch the gymnastics at the Olympics this year!

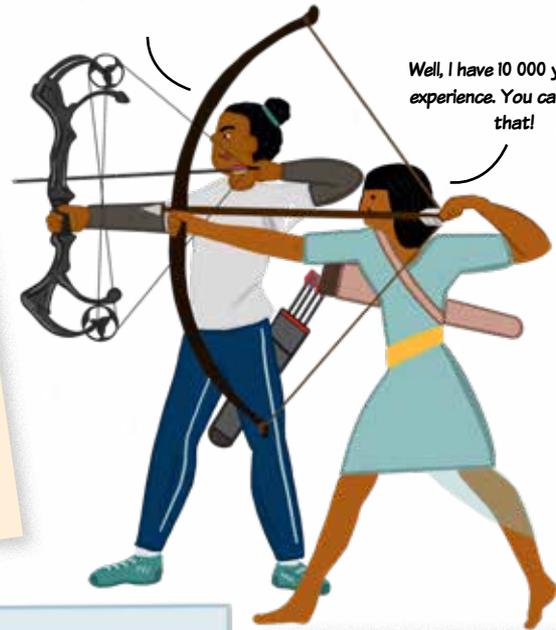


?! Get this!

The word gymnastics stems from the Greek word *gymnos*, or "naked" which is appropriate, since many of the youths trained in the nude.

Archery

Archery is one of the oldest arts still practised. The earliest evidence of archery dates back to 10 000 BC, when the Egyptian and neighbouring Nubian cultures used bows and arrows for hunting and warfare. Over the years, archery became an important military and hunting skill across the world. The introduction of gunpowder signalled the end of the bow as a weapon, and archery officially became a competitive sport in 1844.



I've got a compound bow with state of the art arrows and gear. You'll never beat me.

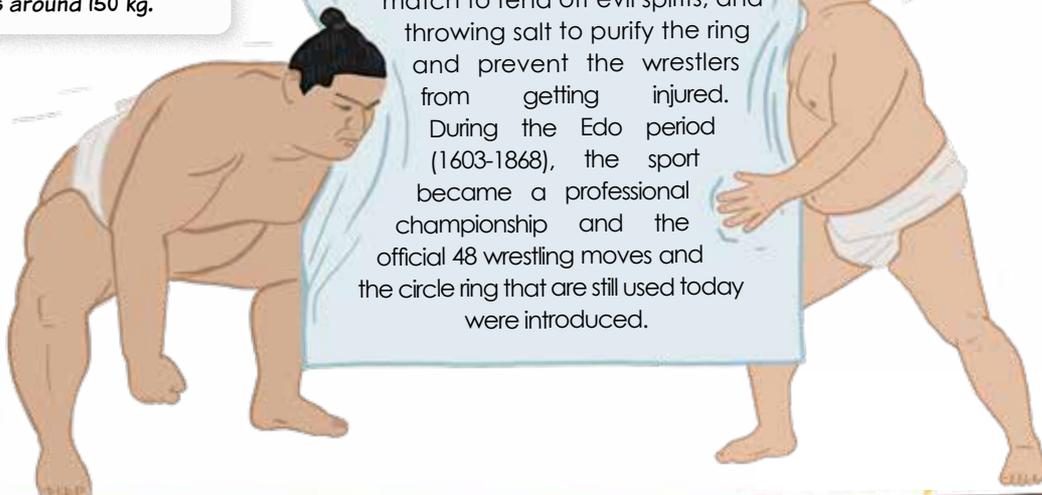
Well, I have 10 000 years of experience. You can't beat that!

Sumo Wrestling

This popular Japanese national sport is almost 2 000 years old! Originally, sumo wrestling was a form of celebration to appease the gods and generate a good rice harvest. The ritual included stomping feet at the start of the match to fend off evil spirits, and throwing salt to purify the ring and prevent the wrestlers from getting injured. During the Edo period (1603-1868), the sport became a professional championship and the official 48 wrestling moves and the circle ring that are still used today were introduced.

?! Get this!

The average sumo wrestler is about 185 cm tall and weighs around 150 kg.



?! Get this!

Archery was the first Olympic sport to allow female competitors, starting in 1904.

PROSTHETICS

MORE THAN AN ARM & A LEG

Have you ever seen a wooden pirate leg or set of false teeth? These are examples of prosthetics! Scientifically speaking, a prosthetic is an artificial body part or implant created and fitted to help people with different needs. This could be for people with injuries, missing body parts, birth defects, or simply someone who needs a pair of glasses to help them see better. Prosthetics can substitute or replace body parts, and they help to restore or improve everyday functions in people's lives! Let's find out more!

Words by Chanté Vorster
Layout by Meaghan Koen

?! Get this!

Something that's artificial, like a prosthetic, is a man-made copy of something natural.

Prosthetics: Transforming lives

Over the years, prosthetics have changed a lot! They are now more mobile, look more realistic and are made from new materials and technology. They are important because they improve the quality of life of those with disabilities and help them stay independent. What's more, prosthetic users can still smash their goals, whether it's to climb a mountain, complete a Tour de France, or simply start a new job.

Unlocking the prosthetic future

Prosthetics may not be as advanced as Luke Skywalker's hand yet, but A.I. and bionic limbs are becoming more and more advanced! Specialists are working towards giving people with prosthetics a sense of touch, more control and improved movement using techniques like osseointegration. This changes the game for people with prosthetics since it improves mobility, makes it easier to remove and attach, and makes the prosthetic user feel as though the bionic limb is more like a part of their body. This is because the user can feel vibrations through the prosthetic which tells them the differences between surfaces.

Joining the green side

Prosthetics are usually made of plastic, and can have silicone, wood, cloth, leather, carbon fibre, aluminium and titanium parts. There are even some electronic prosthetics that use batteries which need to be recharged! Prosthetics should be lightweight and durable, but can become quite expensive because they wear out and need to be replaced every three to five years. Across the world, hundreds of thousands of prosthetics are thrown away every year. This leads to a wastage issue that impacts the environment. However, some companies are working to combat this impact on the environment by collecting the discarded prosthetics and donating them to help others who might need them in developing countries.

EMPOWERING PROSTHETIC INVENTIONS

Photovoltaic retinal prosthesis

This eye prosthesis is implanted in the eye, at the back of the retina and close to the optic nerve. It works together with a pair of smart glasses that are fitted with a camera.

Artificial coiled muscle

In 2018, Dr Tawfik from the University of Illinois created an artificial muscle with carbon fibre and silicone. The artificial muscle looks and feels like a normal muscle, but it can lift 12 600 times its own weight if it gets an electrical current!

Stapes hearing prosthesis

A new stapes prosthetic was invented to help people with hearing loss. The prosthetic is made from a new metal combination that breaks down when it's heated and holds on better to the supporting surface of the ear.

Inflatable robotic hand

Engineers created an inflatable, mind-controlled hand that uses low-cost materials to create its five balloon-like fingers and a 3D printed 'palm'. The soft, light and durable prosthetic brought back some sensation to people who tested the hand.

Bionic animals

Yes, some of our animal friends need bionic limbs too! Cats, dogs, owls, eagles, camels, horses, ducks and elephants have received prosthetics. A custom wheelchair was even built for a tortoise!

Moveable tongue

Shogo Minagi and a team of researchers in Japan created the world's first moveable tongue prosthesis in 2015. It is made from resin and connected to the back of the teeth with a wire. The user can move it up and down by pushing it with the remaining base of their tongue.

Artificial heart

The world's most advanced artificial heart pumps blood into both chambers of the heart. Its sensors measure blood pressure and automatically adjust the amount of blood the heart pumps per minute using this information.

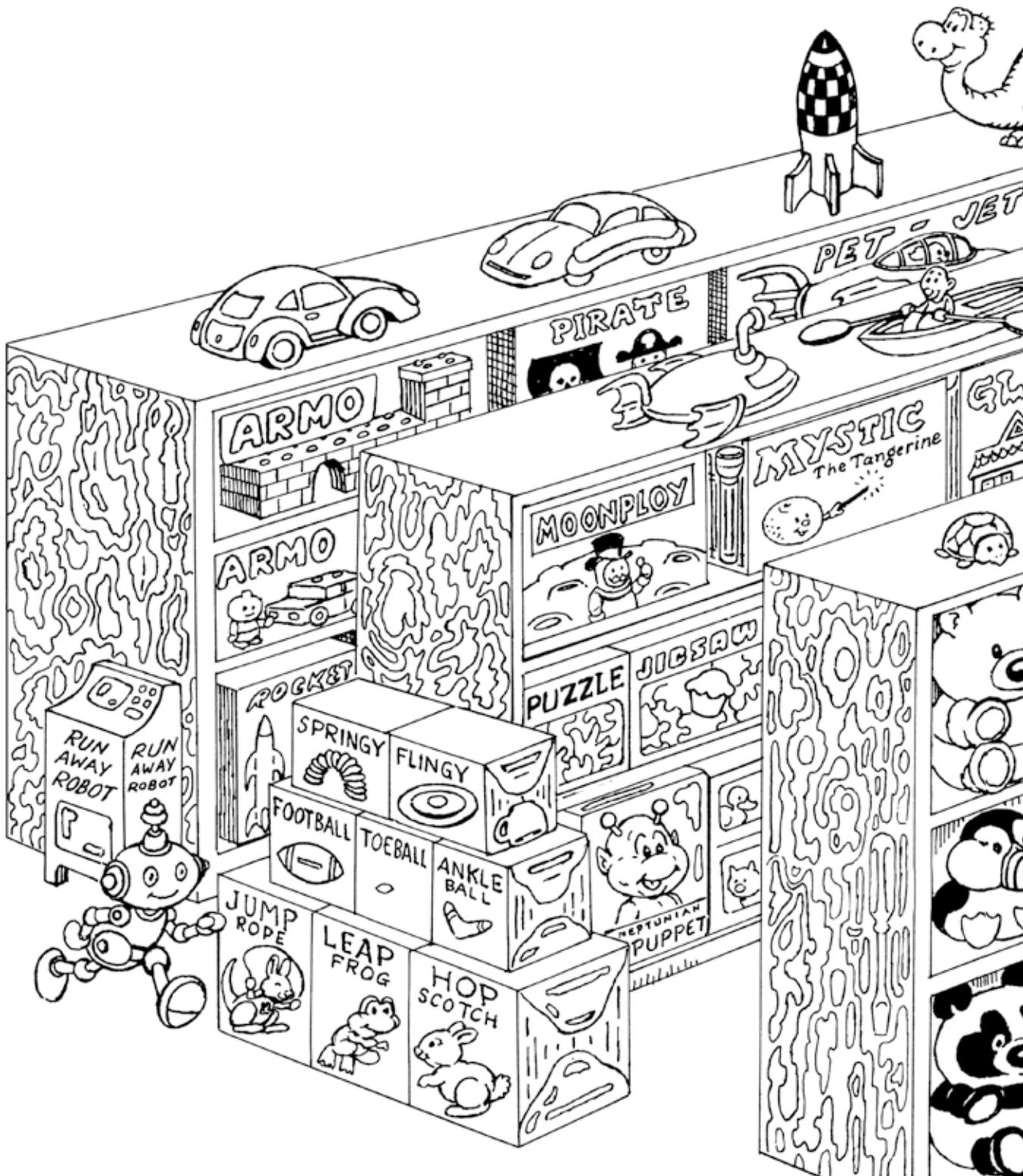
Living skin

Skin prosthetics are made from high-definition silicone and are hand-painted by artists to match your skin tone. They even include unique details like freckles, hair, or nails! While it's mostly used to cover prosthetics, it can also be used to support pushing, pulling, and stabilising functions.

?! Get this!

Osseointegration is used to surgically connect living bone and a prosthetic using a metal anchor.

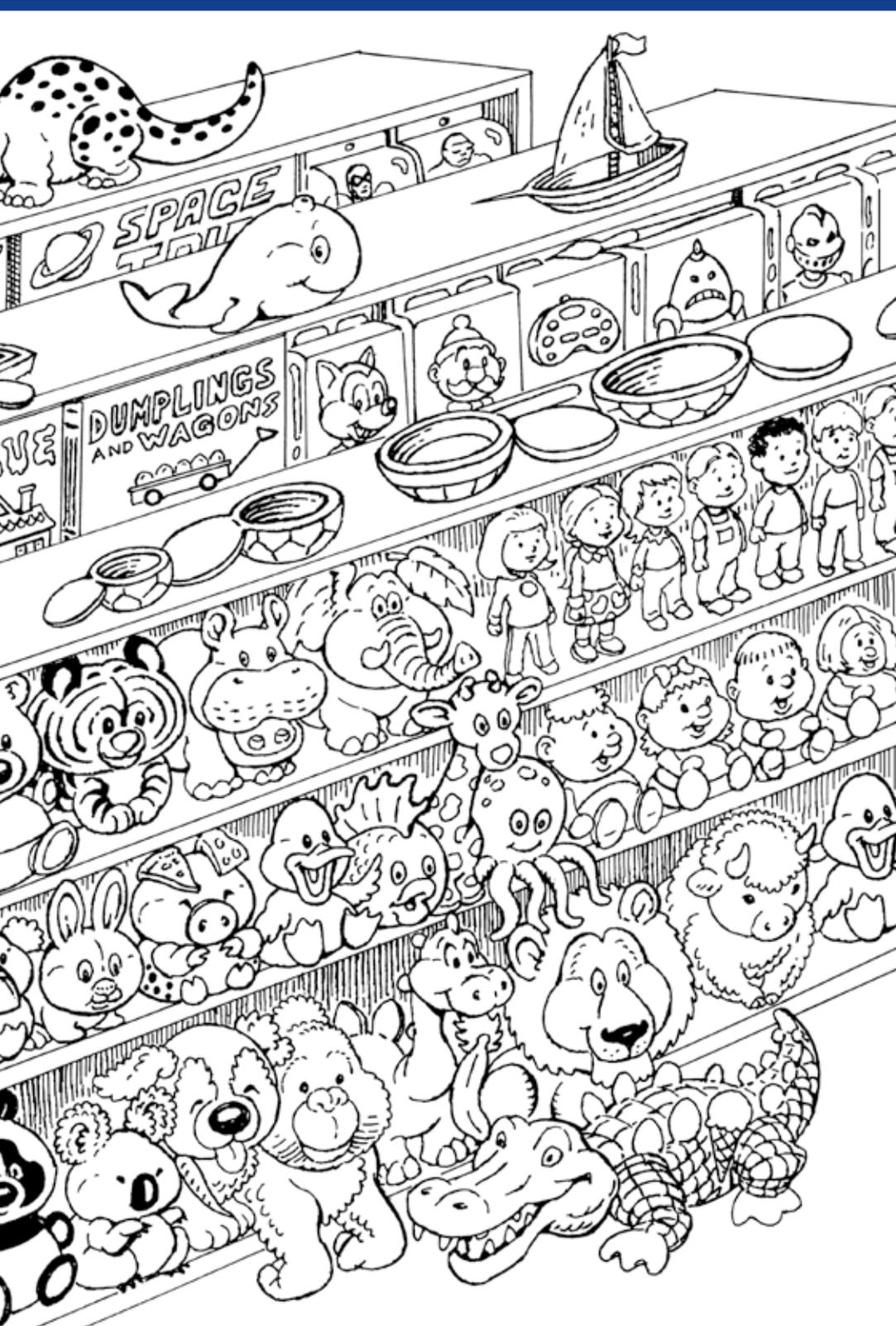
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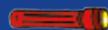
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mitten



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STEPi is an organisation that aims to make sure children are prepared, willing, and happy when they reach adulthood. Squaring the Education Pyramid Institute publishes children's books, written by Paul H. Sutherland and these books encourage empathy, self-awareness, and inclusivity, and focus on the emotional development of children.



'The Green Stylist'

Photo by K. Gurumoorthy



The Comedy Wildlife Photography Awards have just released their competition finalists for 2021! This photo is of one of our favourite types of lizards – the fascinating chameleon! Most people think that chameleons change their colour based on their surroundings. However, chameleons actually change their colour due to a number of different factors, including their mood, changes in light or temperature, or the humidity of their environment. Chameleons can also move their eyes separately, with each eye having a field of 180 degrees. This means they can see 360 degrees if they need to! Excluding their tail, some chameleons' tongues can be twice the length of their body. Their tongues consist of both muscles and bones, and can bend round to grab their prey.



WINNER
KING

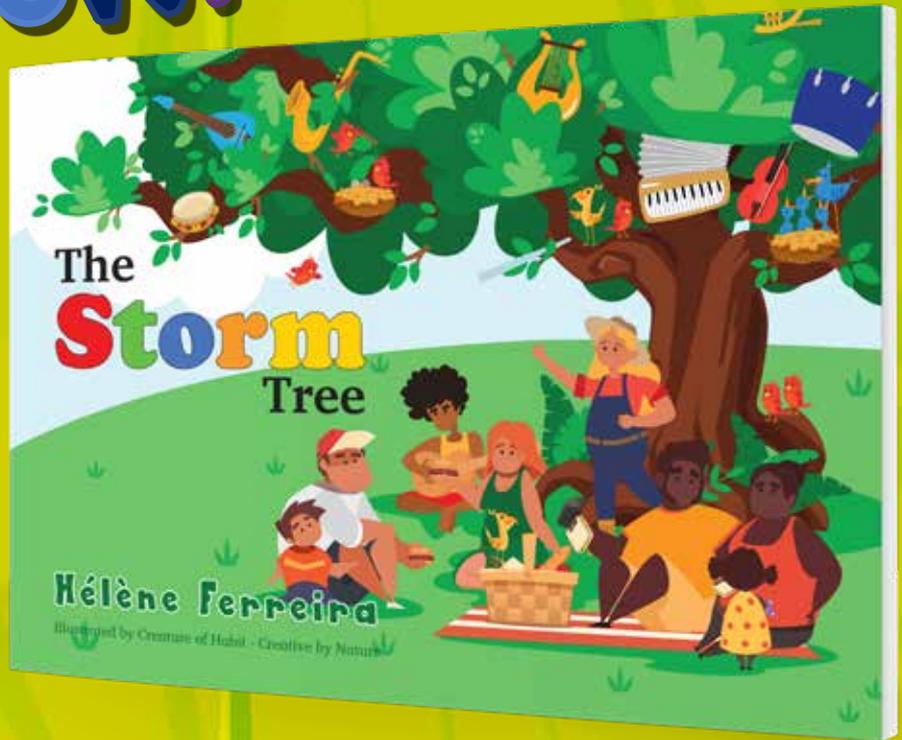




OUT NOW!

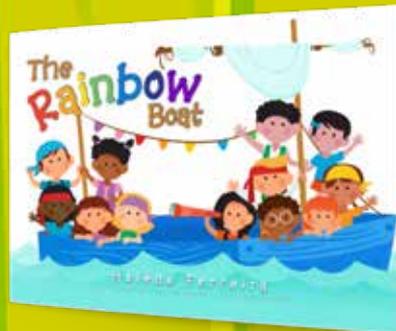
One bright sunny day, a big old tree on top of a hill is inspired by music. This ancient tree suddenly starts to sprout buds that grow into musical instruments!

When a crazy storm breaks out, the village is in trouble. The elements shake the music out of those instruments and a melody starts to play. Can the tree's symphony save a village?

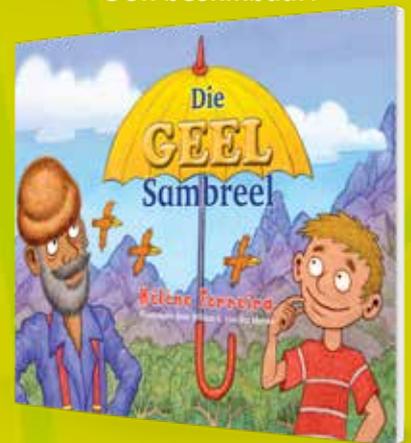


Hélène Ferreira is a South African author and physiotherapist. Her books are developed to help raise balanced, happy children with the skills needed in modern-day schools and life.

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Words by Candice Robertson
Illustrations by Benoit Knox

BIOMES of South Africa

One of the most notable things when travelling across South Africa is the remarkable change in biodiversity as you make your way through the different provinces of the country.

There are a number of reasons for the changes you may notice as you travel from the east to the west coast. From the climate to the landscape, there are a few factors which influence animals and plants living in an area.

We refer to these diverse areas as biomes. Let's have a look at the eight major biomes of South Africa!

Savannah		Fynbos	
Grasslands		Forest	
Nama Karoo		Thicket	
Succulent Karoo		Desert	

?! Get this!

A biome is a large naturally occurring community of flora and fauna occupying a major habitat. The area is characterised by its vegetation, soil, climate, and wildlife.

?! Get this!

There is a ninth biome in South Africa which is called the Indian Ocean Coastal Belt. This biome includes a mixture of Grassland, Savannah, Thicket and Forest species.

?! Get this!

Many of the plants and animals found within these biomes are endemic to the biome. This means that they are found nowhere else on Earth!

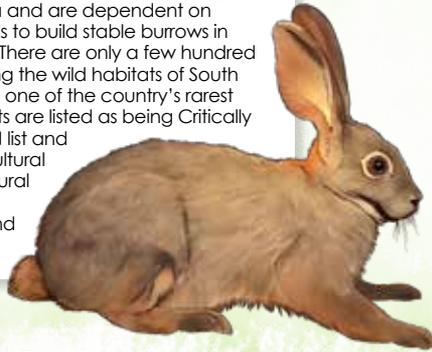
Nama Karoo

The Nama Karoo is a vast, open, arid region dominated by low growing shrubs and plenty of rocks. Although it is not remarkably rich in species, the flora and fauna of the region are surprisingly adapted to its harsh climate. In this biome the temperatures can vary dramatically between day and night times – from -15 °C up to 40 °C! Here, biodiversity is pressured by overgrazing farm animals, the introduction of alien species of plants, mining and the conversion of the native habitat to farming land.

Riverine rabbit

Bunolagus monticularis

Riverine rabbits are very habitat-specific and mostly live in dense patches of riverine bush along seasonal rivers of the semi-arid central Karoo. They are the only indigenous burrowing rabbit in Africa and are dependent on deep and soft alluvial soils to build stable burrows in which to breed and live. There are only a few hundred riverine rabbits still roaming the wild habitats of South Africa, and it is said to be one of the country's rarest mammals! Riverine rabbits are listed as being Critically Endangered on the IUCN list and are threatened by agricultural development in their natural habitat, which has left much of it overgrazed and decimated.



Martial eagle

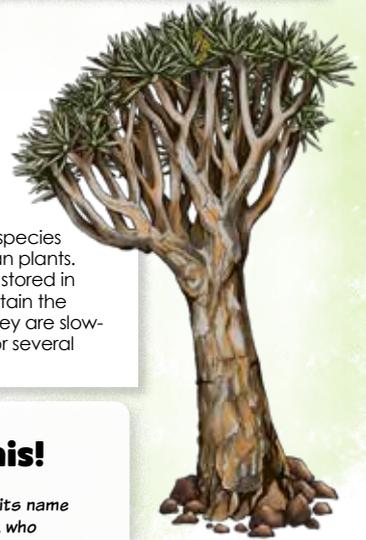
Polemaetus bellicosus

Martial eagles are the largest of the African eagles. They have a wingspan of 2.6 m and are incredibly powerful – capable of knocking an adult man off his feet! Martial eagles are also under threat of extinction. Farmers often shoot martial eagles as they can swoop down and kill their livestock, especially newborn cows. Slow reproduction is another reason these birds are endangered, since they only lay one egg every two years.

Quiver tree

Aloidendron dichotomum

The giant quiver tree is one of the rarest aloe species in southern Africa and was classified as an endangered species on the Red List of South African plants. Great quantities of water are stored in the stem and branches to sustain the plants through dry periods. They are slow-growing trees and may live for several hundred years.



Get this!

The quiver tree gets its name from the San people, who hollowed out the tubular branches to form quivers for their arrows.

Succulent Karoo

The Succulent Karoo has the largest number of succulent plants in the world for a region of its size, and 40% of the plant species found here are endemic to this biome. The Succulent Karoo is hot in summer and cold in winter, and rainfall in this area is also very low. Succulent plants are able to live through the dry seasons by using water stored in their leaves or stems. You'll also find the Namaqualand region in this biome, which is famous for its colourful wild flowers.

Cape marigolds

Dimorphotheca sinuata

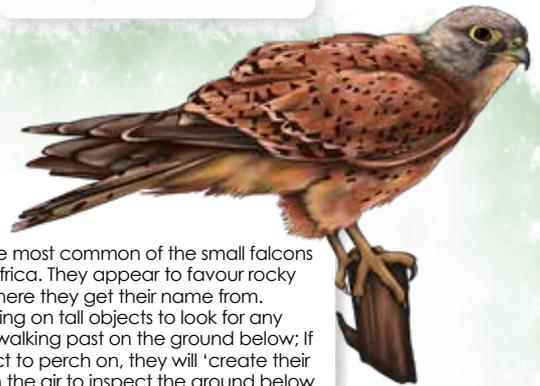
Also known as 'the star of the veldt', these sun-facing flowers are shades of yellow and orange and close up at night and on cloudy days. They are most well known for being a spectacular sight when they are in bloom during the annual Namaqualand spring floral extravaganza. They grow well in rock gardens or dry areas as they are drought-resistant and can survive in water-stressed habitats such as deserts and dry thickets. Cape marigolds are related to sunflowers, chrysanthemums, everlastings, blackjacks and cosmos, and attract butterflies and bees.



Rock kestrel

Falco rupicolus

Rock kestrels are the most common of the small falcons found in southern Africa. They appear to favour rocky terrains - which is where they get their name from. They also like perching on tall objects to look for any unsuspecting prey walking past on the ground below; if there is no tall object to perch on, they will 'create their own' by hovering in the air to inspect the ground below.



Armadillo girdled lizard

Ouroborus cataphractus

These small, stocky lizards received their name from their defence mechanism of biting their tail and rolling into a ball to protect their soft underbelly. The lizards are ovoviparous (which means that the eggs hatch inside the mother) and females can give birth to one or two live young, which are smaller versions of the adults. The mother may sometimes feed their young, which is not usually seen in lizards. Armadillo girdled lizards are also unusual because they prefer to live in communal groups of almost 60 individuals in rock crevices. They are endemic to the mountains and rocky hills of the Succulent Karoo veldt. However, because they live in family groups and are relatively easy to catch, the international illegal reptile pet trade is a growing threat.



Get this!

The succulents that make the Succulent Karoo famous are sadly often targeted for illegal collection for the horticultural trade. It is illegal in South Africa to remove plants such as these from the wild without a permit and punishments for those caught can be severe.



Fynbos

The fynbos biome covers only about 6.7% of South Africa, but has the largest number of plant species of any biome in the country! This type of South African biome has nutrient-poor soils and can't grow the type of vegetation that could support big herds of animals or very large animals. But small mammals do well in this biome and you'd probably run into some klipspringers, grysbok, dassies, mongooses, and even the striped mouse. The WWF states that the Western Cape is more botanically diverse than the richest tropical rainforests in South America, including the Amazon, because of its fynbos. The fynbos biome contains around 8 700 species, and 68% of these plants are only found in South Africa.



King protea
Protea cynaroides

King proteas are the largest species of protea and occur in the Western Cape. They have large flower heads with petals resembling a crown and can grow up to 2 m high! They can produce as many as 10 flower heads in a season. These incredibly beautiful fynbos plants attract various birds and insects with their rich, sweet nectar. Proteas are also referred to as a pyrophylic or fire-loving vegetation, and need to burn every few years to survive. The king protea was named South Africa's National Flower in 1976 and has been the proud emblem of many sports teams, clubs and groups in the country.

?! Get this!

Dating back approximately 300 million years, proteas are considered to be among the oldest families of flowering plants on the planet.

Cape sugarbird
Promerops cafer

Cape sugarbirds are dependent on the Protea for nectar and use the flowers as a nesting site. As a result, they are found only in two provinces of South Africa – the Western and Eastern Cape. The brush-like tip of their tongue and long, curved beak help them extract nectar from different flowers. Cape sugarbirds also play an important role in the pollination of plants. These birds are easily recognisable by a spot of yellow under their tail. Males also have very long tail feathers. You may also recognise them from the frt-frtt sound their wings make when they fly, which is supposed to attract females.

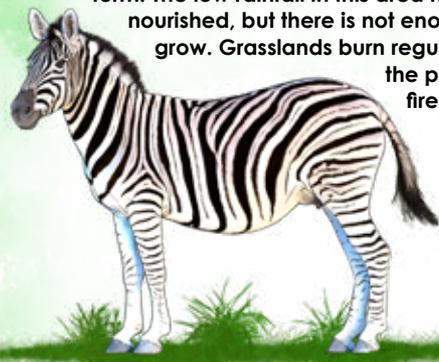


Geometric tortoise
Psammobates geometricus

The geometric tortoise is only found in this landscape and help spread the seeds of the indigenous fynbos, flowers, and grass species that grow here. They get their name from the perfectly patterned black and yellow shapes on their shell. The geometric tortoise is listed as one of the world's 25 most endangered tortoises. Their population size has decreased from several thousand to several hundred over the years, mainly due to the increasing frequency of wild fires, being hunted by predators, and on-going periods of drought in parts of South Africa.

Grasslands

The grassland biome is the second largest biome in South Africa, (covering 28.4% of the country) and is made up of large open areas of grasses, with some trees growing on hills or along river beds. A large variety of plants and animals thrive here. Grasslands experience summer rainfall and have winters that are cold enough for frost to form. The low rainfall in this area means that the grass is nourished, but there is not enough water for many trees to grow. Grasslands burn regularly (often every year), but the plants are adapted to survive fires.



?! Get this!

Zebras are generally thought to have white coats with black or brown stripes. However, zebras actually have black skin under their white coats!

Zebra
Equus quagga

Zebras are very closely related to horses and donkeys; in fact, they are in the same genus. Their skin is definitely the aspect which sets them apart, as each zebra's stripes are unique, just like a human fingerprint. Their stripes work like camouflage, and when they stand together, it is harder for predators to determine how many zebras are in the group. Their stripes also make them appear unattractive to smaller predators, such as bloodsucking horseflies, which can spread disease. In addition, the stripes may work as a natural sunscreen!



Boophone

The name *boophone* comes from the Greek words *bous* (meaning ox), and *phonos* (meaning death or slaughter), and refers to the poisonous properties of the bulb. Boophones are known to be poisonous to cattle and sheep and the Bushman once used the poison for their arrows. However, boophones also have medicinal uses and traditional healers use them to treat pain and wounds. This species is widespread and long-lived but is classified as declining by the Red List of South African Plants. This is because the wild plants are harvested and sold in large quantities at traditional medicine markets.

Blue crane
Anthropoides paradiseus

The National Bird of South Africa stands about 1 m high, and is almost only found in SA. They like wet parts and lay their eggs on the ground. Blue cranes graze in fields and eat seeds, insects and small reptiles. Their numbers have declined due to habitat loss (from urbanisation and human population growth), poisoning and power-line collisions. Their eggs are also hunted by dogs and damaged in crop farming. The population appears to be stable, but is still listed as Vulnerable in the IUCN Red List.

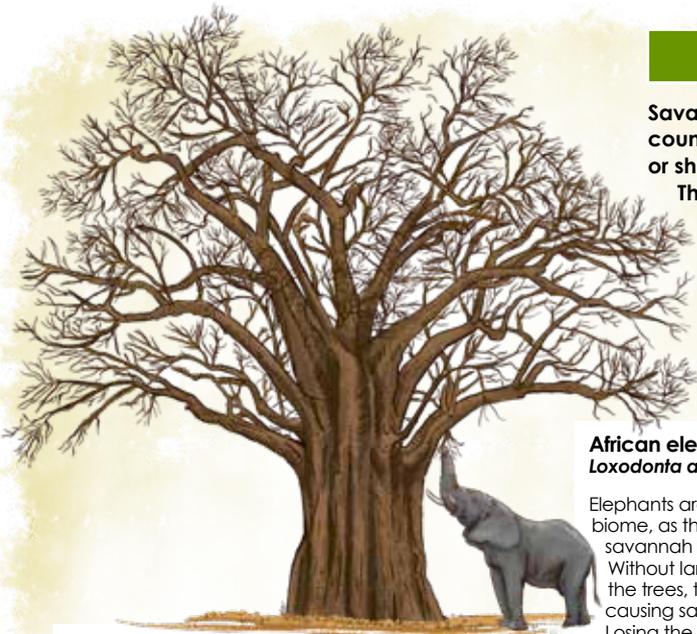


Savannah

Savannah is the largest biome in South Africa, covering 34.3% of the country, and is made up of a mixture of grasses and scattered trees or shrubs. Savannahs receive rain for just a few months of the year.

This results in a long dry season and the lack of water makes the savannah a difficult place for tall plants such as trees to grow.

Grasses and trees that grow in the savannah have adapted to life with little water and hot temperatures. The savannah is home to many large land mammals, including elephants, giraffes, zebras, rhinoceroses, buffalo, lions, leopards, and cheetahs.



Giant baobab
Adansonia digitata

Baobab trees are the true giants of the African bush and their distinctive silhouettes loom over the savannah. The lifespan of the baobab is very long. There are many specimens over 1 000 years old. A baobab in South Africa was dated at around 6 000 years old! They are also known as the 'Tree of Life', and a single tree can hold up to 4 500 litres of water, while the hollow centre of an old baobab also provides valuable shelter. Bushmen used to rely on the trees as a source of water.

African elephant
Loxodonta africana

Elephants are really important to the savannah biome, as they protect the grasses of the savannah by crushing trees and shrubs. Without large animals around to stomp down the trees, they can overtake the grasses, causing savannahs to turn into forests. Losing the grasses would mean less food for grazing animals, like antelope. In the African savannahs, illegal hunting has resulted in the loss of many large animals, including elephants.



Lilac-breasted roller
Coracias caudatus

The lilac-breasted roller could have just as easily been called the 'rainbow roller', as they are made up of eight different colours. Rollers actually get their name from their impressive mating display – a fast, shallow dive from a significant height with a rolling or fast rocking motion, accompanied by loud, raucous calls. If the aerial courtship is successful, the two birds will mate in the air. Some African tribes historically considered the lilac-breasted roller to be a symbol of peace, and their kings would sacrifice it to celebrate the end of a war.

Desert

Deserts are regions of land that are very dry because they receive low amounts of precipitation (usually in the form of rain, but it may also be snow, mist or fog). Deserts have sparse vegetation of distinctive plants and animals living there are specially adapted to the harsh environment. The low humidity in deserts results in temperature extremes between day and night. The transition regions between deserts and grasslands are sometimes called semi-arid deserts.



Secretary bird
Sagittarius serpentarius

Secretary birds are birds of prey, but unlike other raptors they have long legs, wings and a tail. Standing up to 1.2 m tall, their most distinctive feature is the dramatic black crest of 20 feathers on the back of their head. They use their strong legs and feet to stamp down hard on whatever it is that they find in the grass and then bend down and pick it up in their beak, sometimes tossing it into the air if it has not been killed, before swallowing it.

! Get this!

Even though the Secretary bird is found throughout sub-Saharan Africa, it holds very special significance to us here in South Africa as it occupies centre spot on our national Coat of Arms.



Gemsbok
Oryx gazella

Gemsboks' straight, rapier-like horns can reach 120 cm in length, and are used in territorial combat and as lethal weapons against predators – gemsbok horns can even kill lions. Their slow metabolism allows these antelopes to survive for much of the year without drinking and they get the moisture they need from their food, including desert melons that they dig up in times of drought.

Hoodia Officialis

Hoodia are spiny stem succulents growing in the arid parts of the desert. In recent years, these plants have become popular as a natural weight-loss product, based on the age-old use of hoodia by the San as an appetite suppressant. Today, they remain a popular plant as food and to treat conditions such as high blood pressure and diabetes.



Forest

Forests are areas filled with tall trees that form a closed canopy. The canopy is made up of mostly evergreen trees, with a multi-layered vegetation beneath it. Since the forest floor is in constant shade, a lot of moss and fungi grow here! Forests are central to all human life because they store carbon, help regulate our climate, purify water and protect against natural hazards such as floods.

Forests cover less than 0.25% of South Africa's surface area, making this the smallest biome! They grow in areas with high rainfall and no frost, and their moist nature means that they seldom burn. The largest and most famous forests in South Africa are the Knysna and Tsitsikamma Forests of the southern Cape, but most other forests are very small and isolated.

Cape parrot *Poicephalus robustus*

Cape parrots are only found in South Africa, and love searching for food in different forest patches. They often fly between coastal forests and inland forests when looking for food, and can fly up to 90 km in a day while foraging! The Cape parrot is South Africa's only endemic parrot, and there are less than 1 800 of them in the wild. Because of this, the Cape parrot is under threat of extinction.



Yellowwood *Podocarpus latifolius*

Yellowwoods are one of South Africa's most valued timber trees, and are also South Africa's National Tree. They are slow-growing, usually large, evergreen trees, which can grow to be 30 m tall! In the past, the wood from yellowwood trees was very sought after, and they became almost extinct in some areas. Now, all species of yellowwood are protected in South Africa.



Samango monkey *Cercopithecus mitus*

Samango monkeys are South Africa's only primate that prefer to live exclusively in forests! Unfortunately, these monkeys have become endangered due to human encroachment on forests and habitat loss. They spend most of their time travelling, resting and foraging in the forest canopy.



! Get this!

Between 1800 and 2000, about 40% of South Africa's forests were destroyed. Trees were harvested for timber and coastal forests were destroyed to plant sugarcane.

Thicket

Thickets refer to dense groups of bushes or trees. They are quite similar to the Karoo, savannah and forest biomes, but have their own unique characteristics, so, thickets have recently been recognised as a distinct South African biome. In their typical form, thickets form a dense, almost impenetrable tangle of trees, shrubs, and vines, many of which are armed with thorns and spines. Thicket biomes are most common in areas with high levels of rainfall, accompanied by dry spells that prevent the thickets from developing into forests.

Euphorbia *Euphorbia triangularis*

These spiny, succulent trees have angled, segmented branches that leak a watery, milky latex when damaged. These trees are respected and admired by Xhosa people, so much so that if someone damages a tree and it oozes its characteristic milky sap, the person must give the tree a few white beads, or a silver coin, as a gesture of apology. Their flowers attract butterflies, bees and other insects. The succulent stems and branchlets store water to allow the plants to survive the dry winter season and their shallow root system makes them more adaptable for growing in rocky areas and shallow soil.



Trumpeter hornbill *Bycanistes bucinator*

Trumpeter hornbills are medium-sized birds with a big voice! Their loud calls often sound like crying babies. Interestingly, female trumpeter hornbills seal themselves and their eggs in a natural tree cavity or small rock cave, using mud supplied by the male. A small hole is left open so the male can feed her and the chicks. Females nest like this with their eggs for 25 days, until their chicks hatch, and then stay in the nest for another 50 days after they hatch. The male hornbills spend almost three months feeding them! After that, they break out of the nest to forage.



Albany adder *Bifis cornuta albanica*

South Africa is home to critically endangered albany adders, a species of dwarf adder. There have only been 17 known records of albany adders, making this is one of the world's rarest snakes! These snakes are restricted to the Eastern Cape in the Algoa Bay region.



Make your own Hanging Plant TERRARIUM

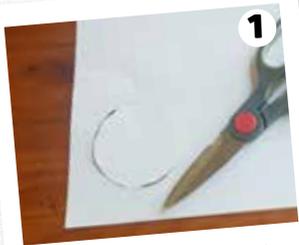
What you need:

- A used plastic bottle
- A craft knife
- A sheet of paper
- A marker or pen
- Some cuttings from indigenous succulents
- Some soil from your garden
- String

Bring some greenery into your life and save the planet from plastic pollution by creating these beautiful hanging plant terrariums.

?! Pro Tip!

Hang your mini garden up in a window away from the wind and too much sunlight.



1

Use a glass to trace a circle on a sheet of paper and cut it out.



2

Use the circle to trace a circle on a cleaned plastic bottle.



3

Get an adult to carefully cut out the circle from the bottle.



4

Add some garden soil to the bottom of the bottle.



5

Carefully plant some indigenous succulent plants in the soil. Succulents grow very easily.



6

Punch a hole through the lid of the bottle and thread a strong string through it.

?! Pro Tip!

Remember to water your plants, but not too much.



Extravagant Fashion

Through the Ages

Words by Sabrina King

Illustrations by Estian Smith

Layout by Candice Robertson & Jessica Colley

Upper class fashion has always been used to convey status (a person's position in society) and power. This is most often because the dress and accessories are extravagant – a visual representation of wealth. We'll be taking a historic look at a few bizarre cultural fashion statements and trends.



This necklace filled with emeralds was part of a much larger set. In the past, matching jewellery was designed to be worn together, and could feature up to 16 pieces such as rings, buttons, tiaras, brooches, rings, bracelets, and earrings! The stones in this necklace were likely mined in South America and would have travelled east across the Atlantic and Indian Oceans to their owners.

With such extravagant homes, it's no wonder people wanted expensive clothes, jewellery, and decor to go along with it! The Palace of Versailles is one such example. When it was fully operational in the 17th century, around 5 000 people, including aristocrats, courtiers, and servants, lived in the palace. More than 100 cooks and waiters worked in the palace's enormous kitchen to feed so many people!



The Palace of Versailles has 700 rooms with 2 153 windows, 1 200 fireplaces, and 1 250 chimneys. The palace also has 67 staircases. To decorate the palace, approximately 6 000 paintings and 5 000 pieces of furniture and other artifacts were used.



This seashell evening purse was designed by David Webb, and is made from a real seashell, mounted with diamonds and lined with 18 karat gold, and studded with cabochon rubies and sapphires. The whimsy and luxury of the piece is similar to Fabergé's work for the Imperial family.



This Fabergé-inspired masterpiece is meant to hold caviar at the dinner table. Today, the highest quality of caviar is called Almas, which means "diamond" in Russian. It's sold only by London's Caviar House and is packaged in a round, 24 karat gold box, costing around R713 000 per kilo.



1400s

Peru, South America

Gold accessories

The *llawi'u* headdress (much like a crown) was laced around the head and featured gold and feather tassels. The most treasured feather was from the Scarlet Macaw, whose feathers are red, yellow and a brilliant blue.

Jewellery such as big, coin-shaped pendants (symbolic of the sun), ankle and wrist bracelets, hair adornments and ear ornaments were very clear signs of status.

?! Get this!

The golden ear ornaments placed within men's earlobes were so big that they'd stretch the lobes (leaving them sagging) and the nickname *orejones*, meaning 'big eared' in Spanish, was born!

Tunic and cloak

The colourful woven tunic, otherwise known as an *uncu* or *cushma*, was patterned to represent the man's tribe. The cloak (or *yacolla*) was worn in colder weather.

Jewellery ranged in value and the material used to make clothes (usually cloth or leather) was of varying quality to further portray social position. As such, the government controlled dress type and access.

Weapon

Military noblemen were honoured with a great bronze weapon, called a *tupa yauri*. It looks like a long, elegant axe and is adorned with feathers (a prized decoration, as birds were only bred for decorative purposes).

Ankle and knee fringes

Colourful woollen or cotton fringes were worn around the knees and ankles. Surely they were ticklish? This assisted noblemen in appearing more attractive. Oo la laa.



Inca nobleman

1600s

Ghana, Africa

Ashanti kings' visual appearances were all about demonstrating power, immense wealth and their prized resource, gold.

Kente

'Kente' means basket and is often called *nwentoma*, meaning woven cloth. This fabric evokes national pride. It was reserved for Ashanti royalty and worn at special occasions. It's made by weaving intricate blocks of multicoloured and multipatterned stripes of cotton and silk. The silk was expensive as it was imported.

Gold

Ashanti kings are well-known for their thick and showy gold jewellery (rings, wrist bands and long necklaces). Ghana became wealthy from trading in gold with the Portuguese, Dutch and British and are considered a powerful nation because of such a valuable and abundant resource.

Kente patterns

Each pattern has a name, meaning and story. Sometimes the social appeal of the cloth itself was more important than the design! This is because Kente signals wealth, nobility (and thus high social status), spiritual power and cultural refinement.

?! Get this!

Gold in Kente is symbolic of wealth, royalty and spiritual purity.

?! Get this!

When Ashanti kings shake another's hand, someone else in the court is appointed to support the king's arm because of the weight in golden jewellery that his arm is carrying. Handshakes are also done with the left hand.

Kente size

One piece of Kente was wrapped around the body. Men typically wore it toga style, with the right shoulder and hand bare. Men's cloth sizes were typically 24 stripes wide and 3.7 m long!

Sandals

Sandals were made from wood, metal, and red, white and green leather. These were important, especially for the Ashanti king, as during ceremonies his feet weren't allowed to touch the ground.

?! Get this!

Kente cloth is woven – by men only – on a horizontal loom strip, creating stripes of cloth 10 cm wide. These stripes are then handsewn to one another.



Ashanti king

1700s

France, Europe

Robe à la française

This was known as a sack in England, and is a colourfully floral-patterned silk (or velvet, in winter) gown. Imported silk was expensive, but that didn't stop the wealthy women who showed it off!

Sleeves

Exaggerated sleeves were also very fashionable, with trimmed cuffs (*manches à la raquette*). Small, circular weights were stitched into the linings at the elbow to consistently remind women to bend their arms (maintaining the 'I'm rich and gracious' pose).

Corset

Ever received a hug so tight that it was difficult to breathe? That's what these boned corsets, ending at the waist, would offer. They were laced at the woman's back and pulled tightly for the desired cone figure. Box pleats up the back ensured the upright posture that signalled elite status. Fully or partially concealed corsets could be extravagant, with silk and metallic lace trimmings.

Headpiece

The *fontange* (top-knot) was about 60 cm high and made up of brass wire, flowers, feathers, ribbons and or jewels (all attached with pins). Top-knots were known by various nicknames depending on the shape, like *cabbage* and *mouse*, and were arranged and worn at formal occasions. The *fontange* was so heavy that it would shake whenever the wearer moved!

Folding fans

Fans were decorated with jewels and oil painted. These hand-held statements were originally only for the aristocracy and court. It was considered an essential accessory and often given as gifts.

! Get this!

Fans were often gifts to brides and folded out to show beautifully painted love scenes.

Hoop

The hooped petticoat created the gown's shape and was high and wide on the sides of the woman's hips. The more special the occasion, the larger the hoop. During the 1700s, these hoops were so wide that they were twice the length of the average woman. They had to walk through doorways sideways!

Shoes

Shoes had rounded toes and high, curved heels in the middle. They often matched the fabric and pattern of the gown and the buckles were set with gems or diamonds.

Parisian upper class woman

1800s

China (Qing Dynasty), Asia

Court dress and collar

The Chaofu (朝服) is a formal dress (a sleeveless shirt, skirt and robe combined) with arrow sleeves and was worn for rituals by Chinese noblewomen. The gracious Pi ling collar (披领) completes the outfit and is adorned separately.

! Get this!

Arrow (or horseshoe) sleeves are loose and elongated at the wrists' outer sides – an important and practical fashion when free movement for archery is considered.

Embroidery, spinning and dyeing

Embroidery, silk spinning and dyeing patterns are but a few material craft methods that ensured a handsome variety of robes (such as dragon, phoenix and peony) so the elite could show off their wealth, decoratively and colourfully.

Headdress

As the Qing dynasty progressed and the economy grew, so too did the hair tie shapes, decor and jewels! Flowers in the hair was said to add beauty to women's movements and by extension, their manners.

Silk robe and sash

Silk was a statement material for the Chinese elite (commoners wore cotton), owing to their trade of it, and used it to emphasise China's cultural domination of the East Asian region. The Imperial family, nobility and court officials would wear long silk robes, which were secured with a waist sash.

Feet binding

The foot binding tradition (of elite Han women) meant feet were bound with cloth and special shoes were sown to hinder growth, both of which were quite painful. A daughter's small, high arched lotus feet were considered beautiful and were symbolic of her family being wealthy enough to spare her working in the fields.

Chinese noblewoman



Make your own Tote Bag

What you need:

- An old t-shirt
- Scissors
- Paint or dye
- Any decorations you want to add



Fold your shirt in half and make sure it's all lined up.



Cut along the inside of the shirt sleeve seams. You can either cut them individually or together to ensure that they're symmetrical.



To create the handles of the bag, cut a deep U-shape around the neck of the shirt.



Turn the shirt inside-out and turn the shirt so that the bottom is closest to you. Make sure the bottom edges are even and smooth.



Start cutting strips that are about 6 cm in length and 1.5 cm wide all along the bottom of your shirt bag.



Starting with your first strip, tie each aligning front and back strip together to create the bottom of the bag.



You'll notice that there are little gaps in between each knot. To fix this, you'll need to tie the first top strip to the bottom strip of the neighbouring pair. Repeat this with every strip.



Once you're done with your second row, tie a double knot on your ends to make sure your bag is secure.



Turn your bag inside out again, and there you go! You can decorate it as you like.

INTERVIEW WITH JUNO a guide dog puppy



Juno is a 20-month-old Labrador with soft fluffy ears, big brown eyes, and a very waggy tail. He loves food more than anything, although he loves going to training too. Juno is a typical Labby in many ways, but he has a special purpose - he's going to be a guide dog when he grows up!

Juno the guide dog puppy has agreed to an interview with *Supernova* magazine, so read on to find out about his life and future as a guide dog.

Words by Kendall Behr 
Layout by Kadi 

Q What can you tell us about your upbringing?

A I was born in a big litter, and have eight brothers, and one sister. We all have names starting with J, because we were the 10th litter born in 2019. We all slept and romped together in our home at the Guide Dogs Association in Johannesburg until we went home with our puppy raisers. I've lived with my puppy raiser since I was eight weeks old, and she's been preparing me to go into training at the Guide Dogs Association. I still see my litter mates, especially my brother Jimmy who lives close by to me.

Juno

Every week, we have class with my supervisor and all the other puppies in Pretoria. We go to the most interesting places, like malls, where the floor smells like food and feet. We also went to visit the Farm Inn once, and got to smell pigs and big cats and small cats. My puppy raiser takes me everywhere with her, and I need to walk quietly next to her trolley while she shops for delicious food. Sometimes if I see some cute kids then I want to say hi and lick their faces, but I need to sit and greet them politely. I don't always do that because kids are SO FUN and they make interesting sounds and they smell good and their faces taste like food.

Q Are you looking forward to being a guide dog?

A Oh yes. I started training as a guide dog in October. As a trainee, I learn to help my person stop at red lights and stop streets so they can walk in the street safely. I also help my person climb stairs safely, use lifts and escalators and be more independent. I think guide dogs are so lucky, because we get to be with our favourite person every day, while other dogs have to stay home. I love going for walks and being helpful, so I'm really excited to be a guide dog. I also like to meet other people which I think will happen a lot.



Baby Juno

Q What's the difference between a guide dog and a service dog?

A Guide dogs are for sight-impaired people (so people that can't see that well or are blind) and service dogs help people with other disabilities, like autism, motor-neuron diseases and even epilepsy. Check out the interviews with kids that have service dogs to know more about them!



Sleepy puppy

Q What do you do at training every week?

A We learn to walk next to our puppy raisers, sit, lie down and stay, and also to be quiet and calm in every situation. I'm very good at training. You could even say I'm the best. My puppy raiser always says I'm the goodest boy, so it must be true!



Juno on a bus ride

Q How can kids be involved with the Guide Dogs Association?

A Oh kids are our favourite! Invite us to your school and we'll come visit you and show your school how great we are. The Guide Dogs Association really needs donations, because that's how they keep us doggos all fed and healthy. They also give people a guide dog or service dog for a small amount of money, even though it costs a lot to raise and train one of us good boys or girls, because they want everyone to be able to have a guide dog. So, if you want to invite us to your school, be sure to turn it into a fundraiser event! You can also ask your parents if you can be a puppy raiser, or just donate to the Guide Dogs Association on their website.





INTERVIEW WITH

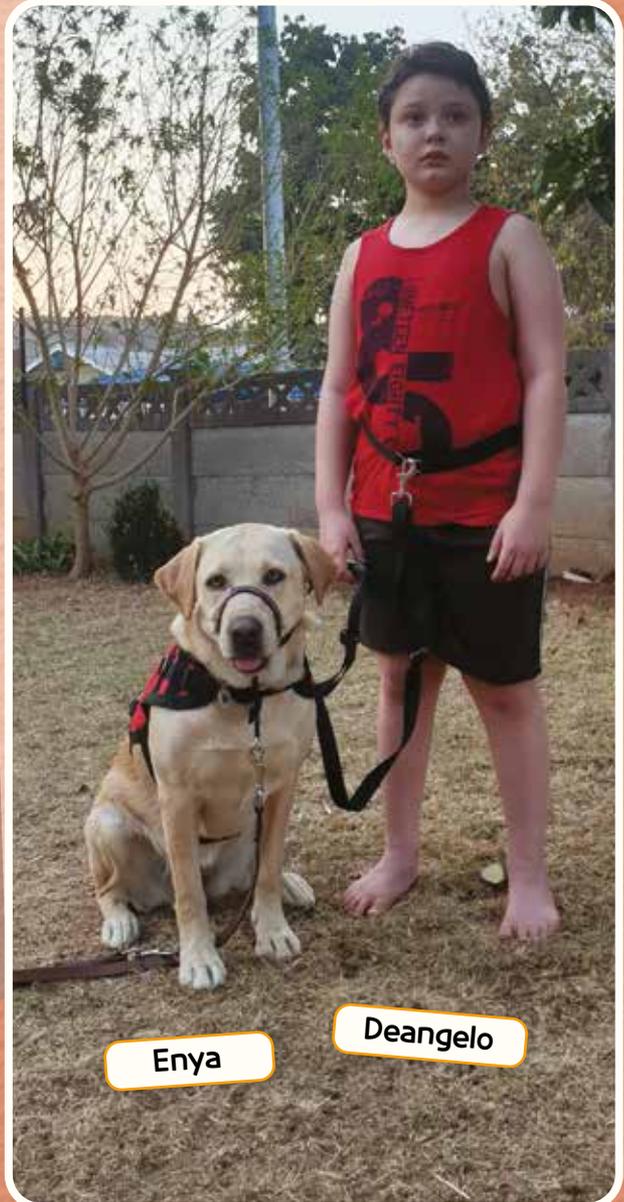
DEANGELO

Deangelo (10) got his service dog, Enya, earlier this year. Deangelo got diagnosed with autism when he was 6, and he can feel very anxious and alone, but Enya gives him the companionship and confidence to do more things by himself. Deangelo calls Enya his angel dog.

Autistic kids think very differently from how you and I might think about things. One of the things they struggle with is to read other people's emotions. Deangelo likes to hear things clearly and truthfully, because he takes everything he hears very seriously. Enya, on the other hand, is never difficult to read.

One of the ways that Enya has helped Deangelo is to control his own emotions. Deangelo will often feel overwhelmed by the world in general, and when that happens, Enya comes to lie on top of Deangelo and makes him feel safe and loved. She also helps him to focus on something that is warm and real rather than worrying about the world around him. Enya has also helped Deangelo feel more confident about being on his own. Enya and Deangelo sleep in their own cosy bed at night, and she wakes him on time for school every morning with lots of kisses.

One of the ways that you can be friends with kids with autism is to be patient and kind with them, even when they do things differently to what you might expect. Although autistic kids can be difficult to make friends with initially, once they trust you, you'll have a friend for life! To help more kids like Deangelo get a service dog, you can donate to, or volunteer at, the Guide Dogs Association South Africa.



INTERVIEW WITH LEILA



Leila (17) has a rare disease called Friedreich's Ataxia. This means that her mitochondria (engines that produce fuel inside her cells) don't produce enough fuel, and don't function as well as they should. This makes her very tired, and she stopped walking entirely a few years ago. Her service dog, Sakura, helps Leila do everyday things like picking up stuff she drops, opening doors, and calling someone when she needs help. Sakura does this by barking loudly.

Sakura even goes to school with Leila, and helps her to do more things on her own without needing to ask a teacher or a friend. Leila's favourite thing about having Sakura is not just all the help she gives her, but also their special relationship. She says she often can feel alone and get left behind when other people run off to do things, but Sakura is always with her.

Leila says the best way to include someone who is in a wheelchair is to just let them do things with you. Although she might take longer to go to places than her friends, they always make sure to wait for her and help her to be a part of what they're doing.



Sakura

Leila

Silly Things Adults Say to Kids Part 1

Words by Su-Mia Hoffmann
Illustrations and layout by
Alexandra Botha-Green

Sometimes, the adults around us say the silliest things. Some of these sayings are to stop kids from doing something that could be bad for them. Other sayings have been passed down from generation to generation. Some are both! Let's have a look at some of these silly things and explore just why they're silly in the first place.

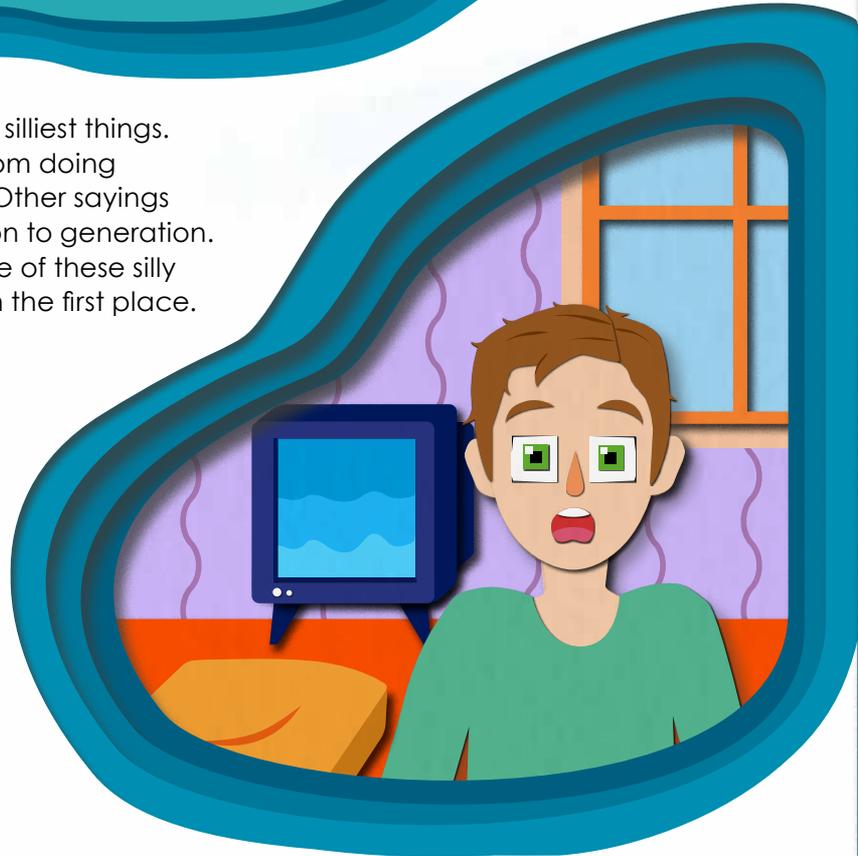
If you sit too close to the TV, you'll get square eyes

Why is this silly?

This is an old wives' tale. Your eyes can't really go square. And for that matter, you can't get short-sighted from sitting too close to the TV either.

Why do people say it?

Although your eyes won't go square and you won't get short-sighted from sitting too close to the TV, watching too much television or spending too much time on a computer or tablet can be bad for you. In fact, watching more than four hours of TV a day has been linked to an 80% increase in heart disease.



?! Get this!

An old wives' tale is a saying or a belief that has been passed down from generation to generation but is now seen as incorrect or unscientific.

If you swallow watermelon pips, then a watermelon will grow out of your ears

Why is this silly?

Nothing bad can happen to you if you swallow any type of seed. Raw seeds pass through your system undigested. To get the full nutritional benefits from watermelon seeds, they must be sprouted, shelled and dried.

Why do people say it?

This old wives' tale has been around for a very long time and it's unclear where it started and why people say it. It's probably just a way for adults to joke with kids.



A blanket doesn't have pockets

"Ingubo ayinawo emakhikhi"

Why is it silly?

Of course, your traditional blanket doesn't have pockets. But, a company called PediPocket has invented a blanket with a pocket to keep your feet warm. A blanket can even have sleeves, like the inventors of the Snuggie have shown us.

Why do people say it?

This siSwati idiom doesn't really have anything to do with blankets. Its figurative meaning is that if you don't get up and work, you won't get paid. Adults say this to kids to teach them the value of hard work and that money doesn't grow on trees (see what I did there?).



You can't swim for 30 minutes after you've eaten

Why is it silly?

This myth is so widespread that the American Red Cross released a scientific review in 2011 to set the record straight. They concluded that eating before swimming doesn't cause drowning. There have also been no recorded deaths from swimming on a full stomach.

Why do people say it?

This bogus rule comes from 1908. It was published in the Boy Scout handbook. The concern was that digestion of food would somehow interfere with blood flow, cause cramping and result in drowning. It definitely doesn't!



If you eat sleeping on your side then your Lobola cows will arrive crawling on their sides too

"Ba utya uleli ngecala, neeNkomo zakho zizoza zileli ngecala"

Why is this silly?

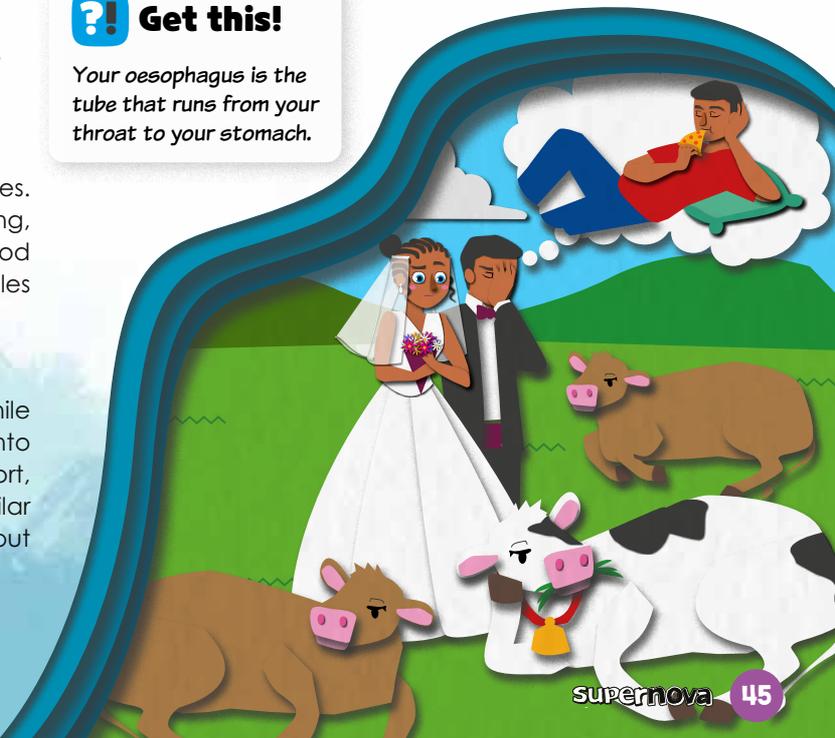
Cows can't crawl, never mind crawl on their sides. Cows can't even remain lying down for very long, because they need to stand up to restore blood flow to their legs. If they don't do this, their muscles can be permanently damaged.

Why do people say it?

There is wisdom in this saying. If you lie down while or after eating, your stomach acid could rise into your oesophagus and cause pain and discomfort, especially if you have acid reflux or a similar disease. So, the cows will not come crawling, but your stomach acid might!

?! Get this!

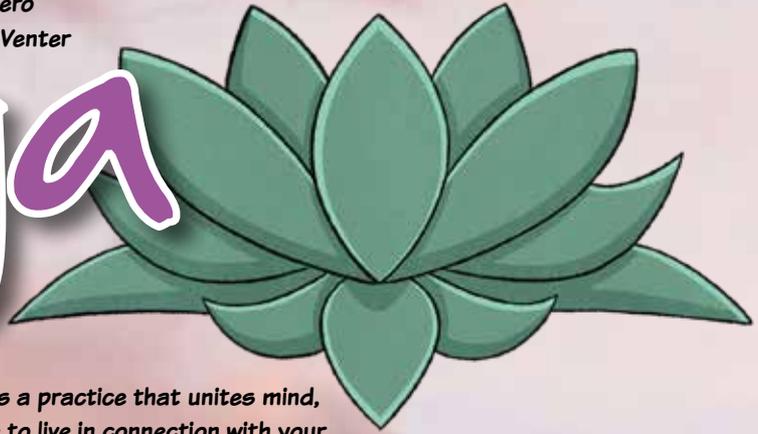
Your *oesophagus* is the tube that runs from your throat to your stomach.



Look out for Part 2, coming soon!

Yoga

Words by Karla Cordero
Illustrations by Vicki Venter



In modern definitions, yoga is understood as a practice that unites mind, body, and soul. It's a philosophy guiding one to live in connection with your self and the natural world. Today, we commonly practise yoga asana, or poses. Practising yoga poses has many benefits for a healthy body and mind, like decreasing anxiety, building strength, and improving focus. Yoga poses also help develop life skills like confidence, resiliency, and mindfulness.



?! Get this!

Yoga dates back to over 5 000 years!



The mental strength it takes to practise yoga poses can be learned by anyone at any age! We learn to slow down, take deep breaths and keep our focus strong. The journey in practising is where we build humility, courage, and endurance.

?! Get this!

Men who practise yoga are called yogis; women who practise yoga are called yoginis!

Child's Pose

1. Kneeling on the floor, bring your toes together and open your knees wide.
2. Sit back on your heels.
3. Bow forward, bringing your forehead to the mat and reach your arms overhead.

Benefits

Child's Pose builds strength in your wrists, arms, shoulders, and back. It also cultivates a sense of self and body awareness.





Benefits

Snake Pose improves your posture by strengthening your back muscles and stretching your ab muscles. It also establishes a sense of calm and grounding.

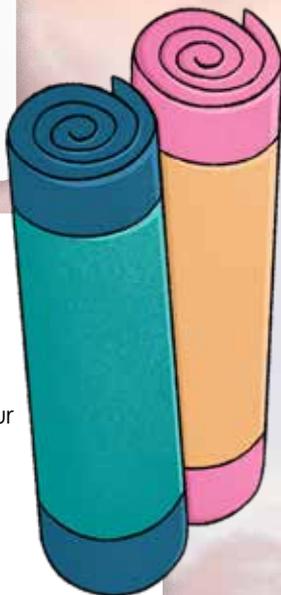
Snake Pose

1. Begin on your tummy.
2. Bring your forearms parallel in front of you, keeping your elbows under your shoulders.
3. Press into your forearms and lift your chest off the mat.
4. Keep your legs and hips on the ground.



Get this!

Research shows that yoga and meditation can help delay aging and prevent diseases!



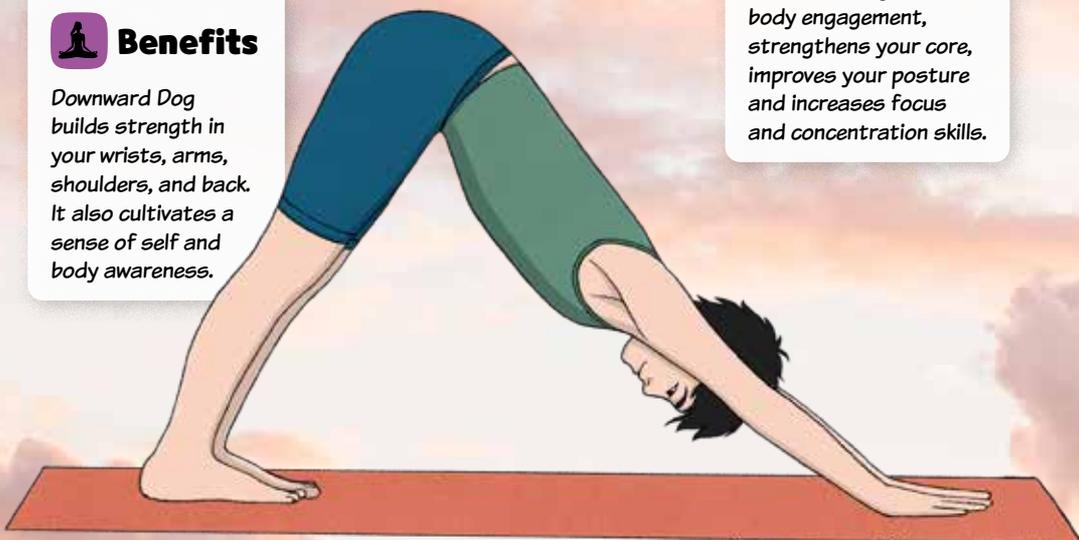
Downward Dog

1. Begin on your hands and knees.
2. Curl your toes and walk your hands to the front of your yoga mat.
3. Lift your hips up toward the sky while your heels reach toward the ground.
4. Hang your head in between your arms.



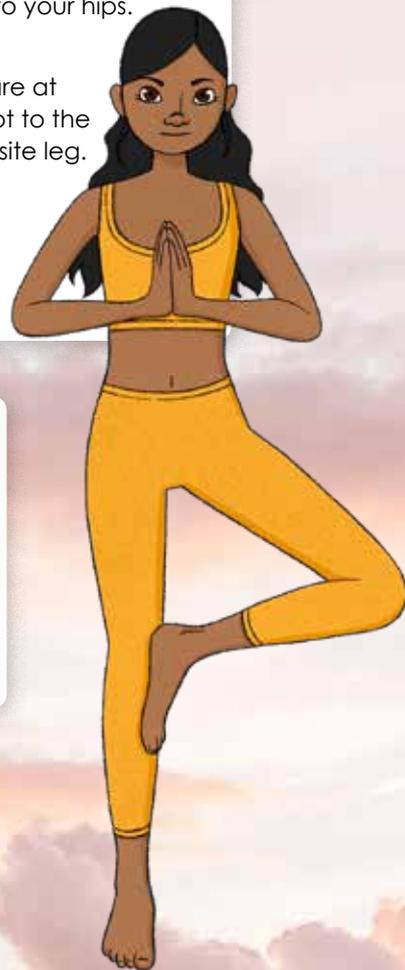
Benefits

Downward Dog builds strength in your wrists, arms, shoulders, and back. It also cultivates a sense of self and body awareness.



Standing Tree Pose

1. Begin by standing with your feet in line with your hips.
2. Bring your hands to your hips.
3. Find a point to stare at and bring one foot to the thigh of the opposite leg.
4. For an extra challenge, slowly reach your arms over your head!



Benefits

The Standing Tree Pose encourages full body engagement, strengthens your core, improves your posture and increases focus and concentration skills.

Crack a joke

Layout by Chanté Vorster



How to play

Here are five corny jokes that'll put even dad to shame! But, to find the answers, you'll need to decode each one using the provided grid. Each grid block contains a hidden letter. To crack it, you need to find the block that looks similar to the shapes in the hidden answer. If a shape includes a mark inside it (•), you'll need to use the second letter in the grid block. If there is no mark inside the shape, you need to use the first letter in the grid block.

Answer:

How are false teeth like stars?

∨ ∩ L < U ∩ ∩ L
 ∩ > ∨ J ∨
 ∩ ∩ ∩ ∩ ∨

Answer:

What kind of shoes do ninjas wear?

∨ ∩ L J ∩ L ∩ ∨

Answer:

Answer:

What did the Dalmatian say after lunch?

∨ ∩ J ∨
 ∩ ∩ ∨ ∨ ∩ L
 ∨ ∩ ∩ ∨

How does a scientist freshen her breath?

^ ∩ ∨ ∩
 L ^ ∩ L ∩ ∩ - ∩ ∩ ∩ ∨ ∨

Answer:

How do we know that the ocean is friendly?

∩ ∨
 ^ J > L ∨

Use this grid to crack the jokes:

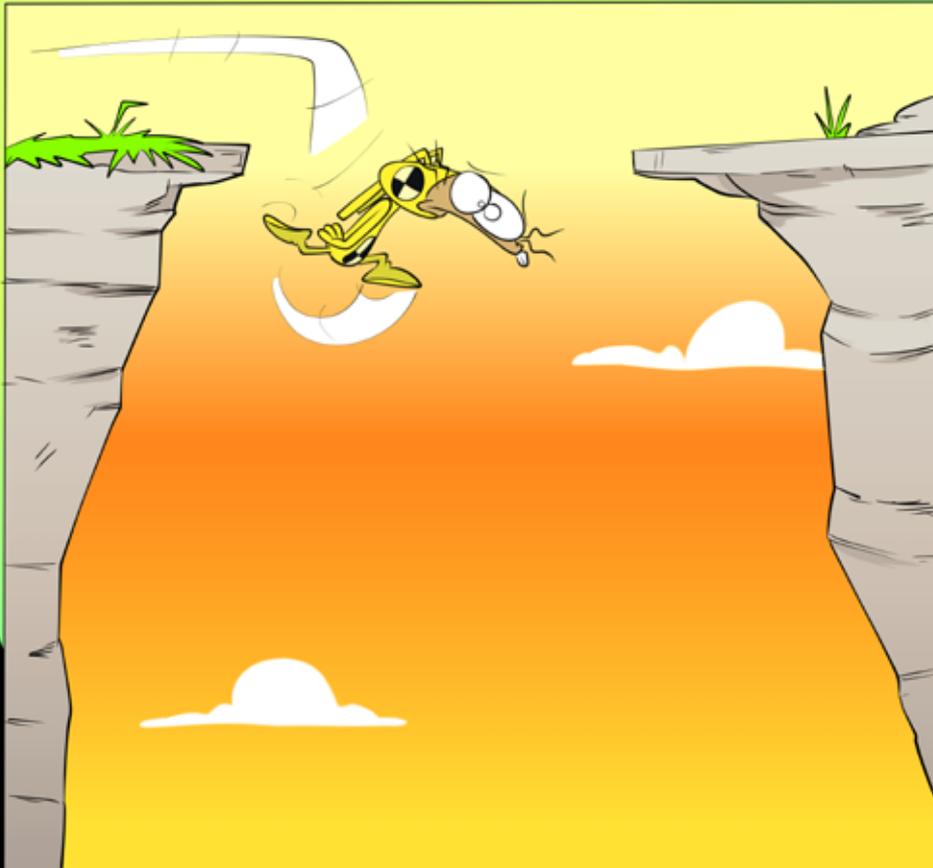
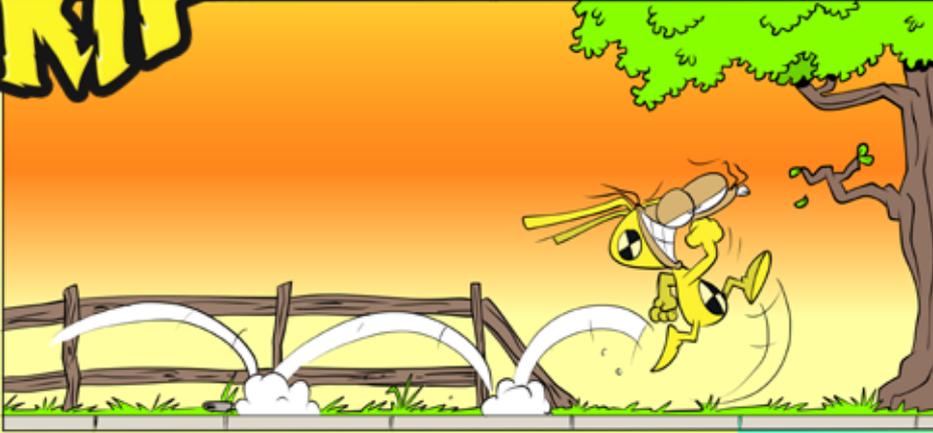
AB	CD	EF
GH	IJ	KL
MN	OP	QR

ST
UV YZ
WX

DOCTOR RIP

DEATH BY EXERCISE

DOCTOR RIP EXPLAINS



WHEN WE JOG, WE LET OUR MINDS GO.



BUT SOMETIMES, WE LET GO TOO MUCH... WE FALL AND...

... WE DIE!



MANY PEOPLE AROUND THE WORLD, AND EVEN IN SOUTH AFRICA, HIT ROCK BOTTOM WHILE STEPPING OUT FOR SOME FRESH AIR.



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For
Tweens



Supernova

Ages
2-6



Highlights
High Five™

Ages
6-12



Highlights™