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# The BIG Picture



Photograph by Bill Ingalls/NASA





All systems GO!  
The space shuttle *Atlantis* is seen shortly after the rotating service structure was rolled back at launch pad 39a, 7 July 2011, at the NASA Kennedy Space Center in Cape Canaveral. Soon it departs on its 12-day mission to the International Space Station. This will be NASA's last space shuttle mission before the fleet is retired.



### supernova

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## Hi SuperKids

**T**ake a deep, chilly breath in... now release it! We're putting winter behind us and getting ready for spring. As nature sheds its warm coat and puts on its bathing suit, so are we changing our look so to speak, starting with a few fun additions to our regular content. In this issue, we introduce more interviews (with a twist!), we catch up with evolving technologies, and we give some of the old favourites a fresh feel. This might also be the cutest issue ever as you can't help but say "Aaaww!" when you see those big-eyed bush babies. So too do we marvel at nature's scary volcanoes. At the same time, we can't help but see yellow everywhere, since the flowers are blooming, and spring is on its way. So, celebrate the change of the seasons with your mag in hand. Maybe take a road trip to far-off places with odd and interesting names, or just put your feet up and read your SN. I look forward to journey with you as SN's new editor.

Happy reading!

Saskia

## Features



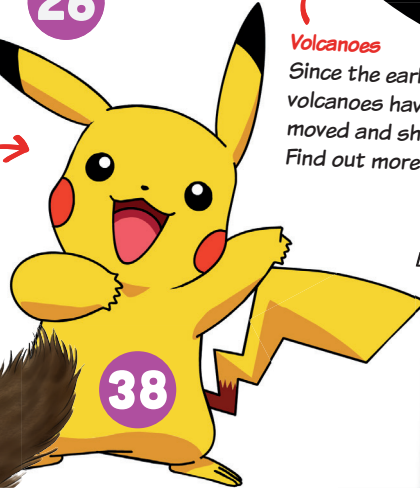
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**Bushbabies**  
What's that jumping in the trees? It's the cutest big-eyed bushbabies! Find out more about the Lesser and Thick-tailed bushbaby.



32

**Volcanoes**  
Since the earliest history, volcanoes have quite literally moved and shaped the earth! Find out more on p.32



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**The Colour Yellow**  
How did yellow come to feature in everyday life? That's a story that starts far back in time. Go to p.38 for the full story.

**Talk of the Town**  
Town names from Coffee Bay to Tietiesbaai.



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By you. For you.



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NEW!

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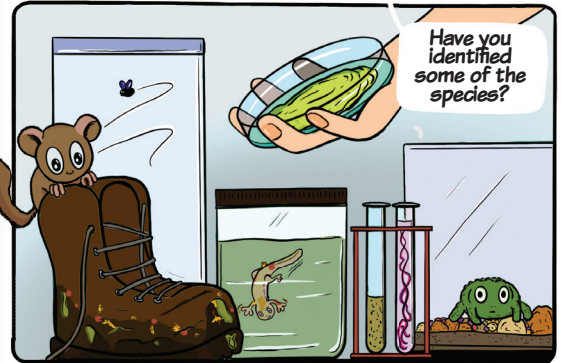
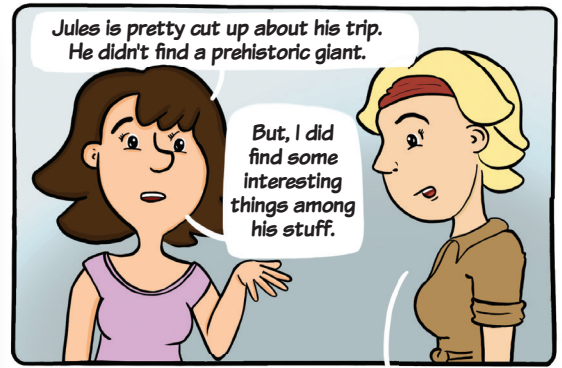
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## The Chill Zone

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We loved reading your letters! Keep them coming to stand a chance to get featured here. Send it to [mail@kidsmag.co.za](mailto:mail@kidsmag.co.za)



## Ask Jules?

### What do insects taste like?

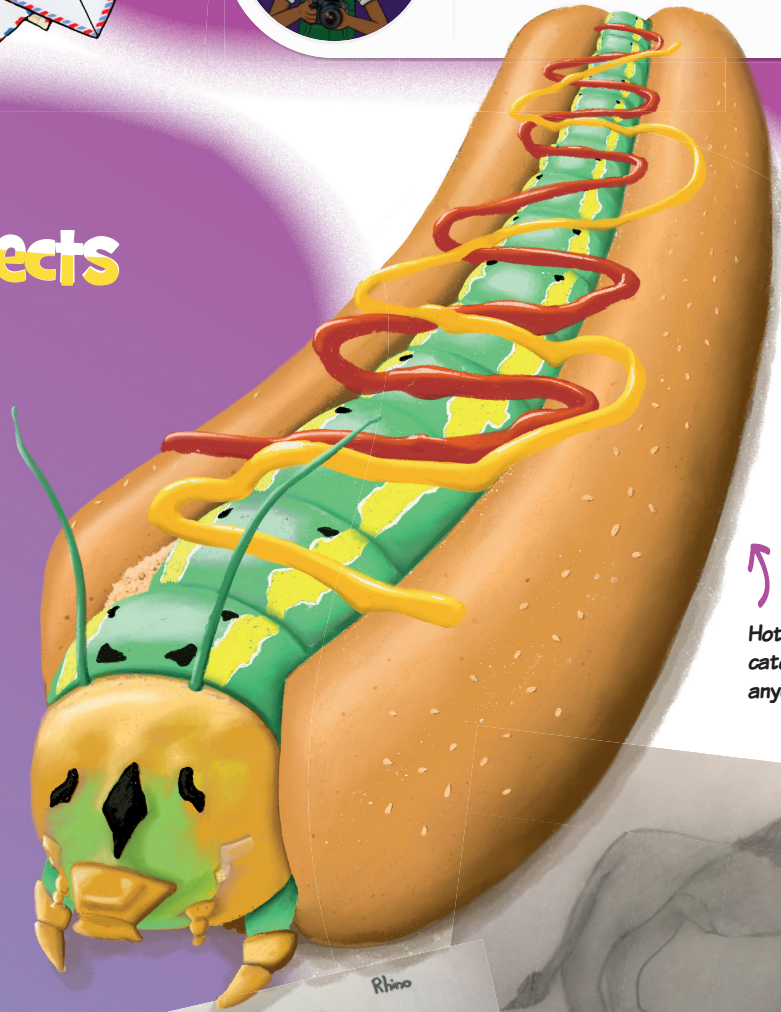
Question by Elné (24)

Did you think that insect eating was reserved for TV shows like *Fear Factor*? Well, guess again! Bugs are the next big thing. So, what do these creepy crawlies and other flying insects taste like?

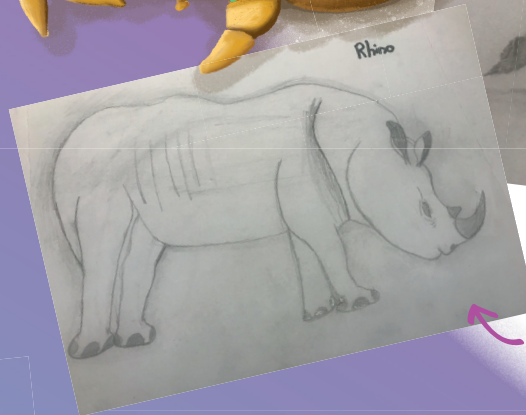
On the whole they taste quite nutty, especially when they have been fried. But, according to the bug eating pros, there is more than one flavour to enjoy.

Scorpions taste like biltong, lemon ants really do taste lemony and grasshoppers are said to have a peanut chicken-leg flavour. Looking for something fruitier? Then grab a tasty apple-flavoured stink bug or sprinkle some salted banana-flavoured giant water bugs on your next bowl of ice-cream. Are you brave enough?

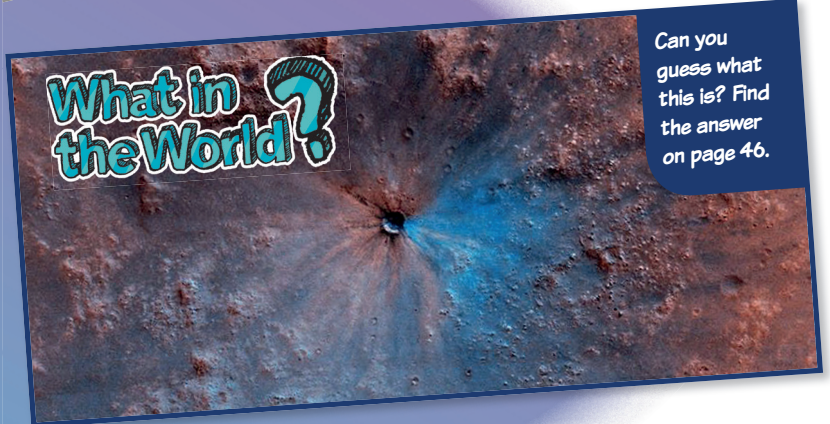
Check out *Supernova* Vol 7.2 for our fun article on entomophagy (that's a fancy word for eating insects).



Hot caterpillar anyone?



Joshua Govender From St. Declan's School For Boys in Alberton sent us these beautiful drawings. Thanks, Joshua!



Can you guess what this is? Find the answer on page 46.



**Danielle**, who says she loves English and reading, said it "was so fun reading about 'Master's and their masterpieces'" (Supernova Vol. 7.6) and that she would like us to write a part 2.

Wow! Great idea, Danielle. We'll work on it.

**Alexander** said he wants us to feature the Eiffel Tower in Andy's Atlas and that his favourite English words are 'dope' and 'cool'.

Cool, Alex! Check out p. 14 for Andy's dope take on Notre Dame

**Sumaya** (13) said that Supernova is her "favourite magazine" and that she wants to learn more about Easter Island! She didn't like our chilli and chocolate sauce recipe in Vol. 8.1.

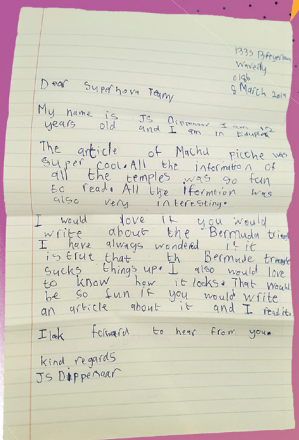
Chilli chocolate is not for everyone. Be sure to check out our awesome volcano article on p. 32

**Adriaan** (12) says that we "are doing a great job" at Supernova! Thanks, Adriaan! He would like us to write an article about the Amazon, all the creatures there, and why some creatures live only there and nowhere else.

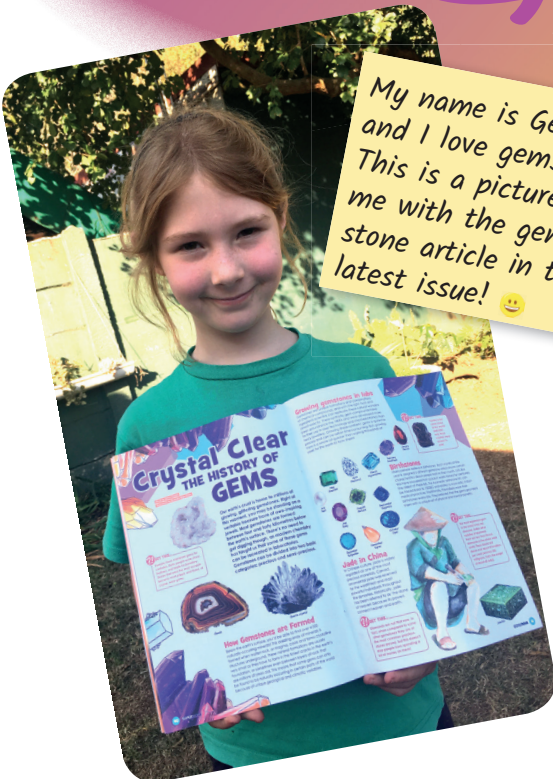
Great idea! Sounds like our next SN adventure.

## Readers' Letters

The grade 6 learners at Eduplex Primary School wrote us some letters telling us what they like about Supernova magazine and what they'd like to read more about. Here are some examples:



My name is Gemma and I love gems. This is a picture of me with the gem stone article in the latest issue! 😊



## Science Fundi

Kelsi Hewitt (13), from Pietermaritzburg, won gold at the Oğuzhan Özkaya Education – Karademir Science Energy Engineering Fair (OKSEF) in Turkey in June 2019. Her project investigated whether Aloe Ferox (from Aloe plants) would discourage ticks from climbing on and biting farm animals. She said that there were some signs of Aloe Ferox keeping ticks off animals. Kelsi loves working with animals and wants to study to become a vet after school.



**Photo  
Feed**



# Look at those curves!

*Buildings that don't quite fit the mold*

When we think of buildings (and architecture), we think of straight lines and blocky shapes. Sometimes, there are those that don't quite fit the mold. We look at structures that are famous for being curvy, bendy and skew.

## **Casa Milà, Spain**

This cultural building was designed by famous architect Antoni Gaudí. The front of the building is made entirely of natural stone. It is also called 'the stone quarry' due to its strange appearance.



**sn** Kuchlbauer Kunsthaus  
Germany

♡ 🔍 🗑️

This funky museum, by architect Peter Pelikan, is a big attraction for the small town of Abensberg. #hundertwasser

**sn** Sydney Opera House  
Australia

♡ 🔍 🗑️

More than 10.9 million people visit the Sydney Opera House every year. #figarofigures #latriviata

**sn** The Bent Pyramid  
Egypt

♡ 🔍 🗑️

Builders of this pyramid had to change the angle when it started to crack. #phara-oh-no #sandcastlemishaps

**sn** Bosjes Chapel  
South Africa

♡ 🔍 🗑️

This chapel pays tribute to the historic Cape Dutch farm houses. Or maybe to Aero bubbles? 😊 #bubblybuilding

**sn** The Leaning Tower of Pisa  
Italy

♡ 🔍 🗑️

The Leaning Tower of Pisa took two centuries to build (on soft, sandy soil no less). #itscalledawaterpass

**sn** Lou Ruvo Center for Brain Health  
USA

♡ 🔍 🗑️

This Las Vegas building was built to represent the brain. Or maybe it was left out in the sun for too long? #meltingmarvel

# The Recorder

FUN  
FACTS!

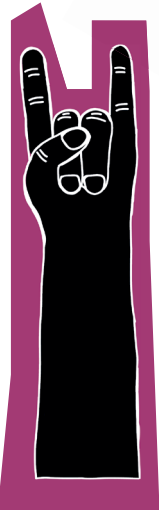


Even kings used to play the recorder! King Henry the 8<sup>th</sup> was known to collect recorders like a mad man. He also enjoyed making sweet-sounding tunes!

Do you want to be a musician?  
Visit our shop and talk to an expert.

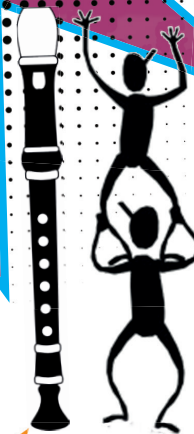


Ever wonder what came first? The chicken or the egg? Or in this case the recorder or the flute? Well the recorder came first! The flute stole its thunder later.



Who said the recorder was dull? Famous musicians, like David Bowie, Lou Reed and, Beatles frontman, Paul McCartney, used it in some of their famous rock songs.

Jimi Hendrix was so ashamed to have played a recorder on his hit single 'If 6 was 9' that he asked for it to be listed as a flute on the song credits.

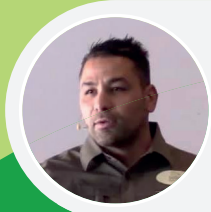


The largest functional recorder is 5 metres tall! If one person stood on another person's shoulders, they would be about as tall as the tallest recorded recorder ever!

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# The PRO-files



Hi! My name is Kyle Oelofse and I am an environmental scientist. I am the managing director and training coordinator for Goshen Organic Snail Farm (Pty) Ltd. Our farm is based in Sedgefield, Western Cape.

# Snail Farmer



## What is your profession?

I am a heliciculture farmer. 'Heliciculture' is just a fancy word for snail farming. This is the process by which a farmer reproduces and raises land snails. Although these land snails may be regarded as a pest in your garden, they can be processed and used as edible escargots, for snail gel in cosmetics and the snail eggs as white caviar.

## ?! GET THIS...

Snails are able to glide across a knife or razor blade without getting hurt as their bodies are coated in mucus.



## What do you do on a typical day?

Snails are nocturnal, which means that most of their activities, such as feeding, mating and snail interaction, take place at night. While snails are inactive and sleep during the day, we spend our day cleaning the breeding rooms, maintaining the agricultural tunnels and harvesting fully-grown snails.

## What skills do you need?

Snail farming is an interesting and fun activity. An animal production certificate in snail farming will equip you with the knowledge and skills to start your own snail farm. Operating a farm requires perseverance and self-motivation.

## ?! KYLES'S ADVICE...

It is essential for a snail farmer to be passionate and committed towards their venture. These attributes should be applied to any dream or goals that you wish to pursue.



# JOIN BOOT

ON HIS BIG ADVENTURE



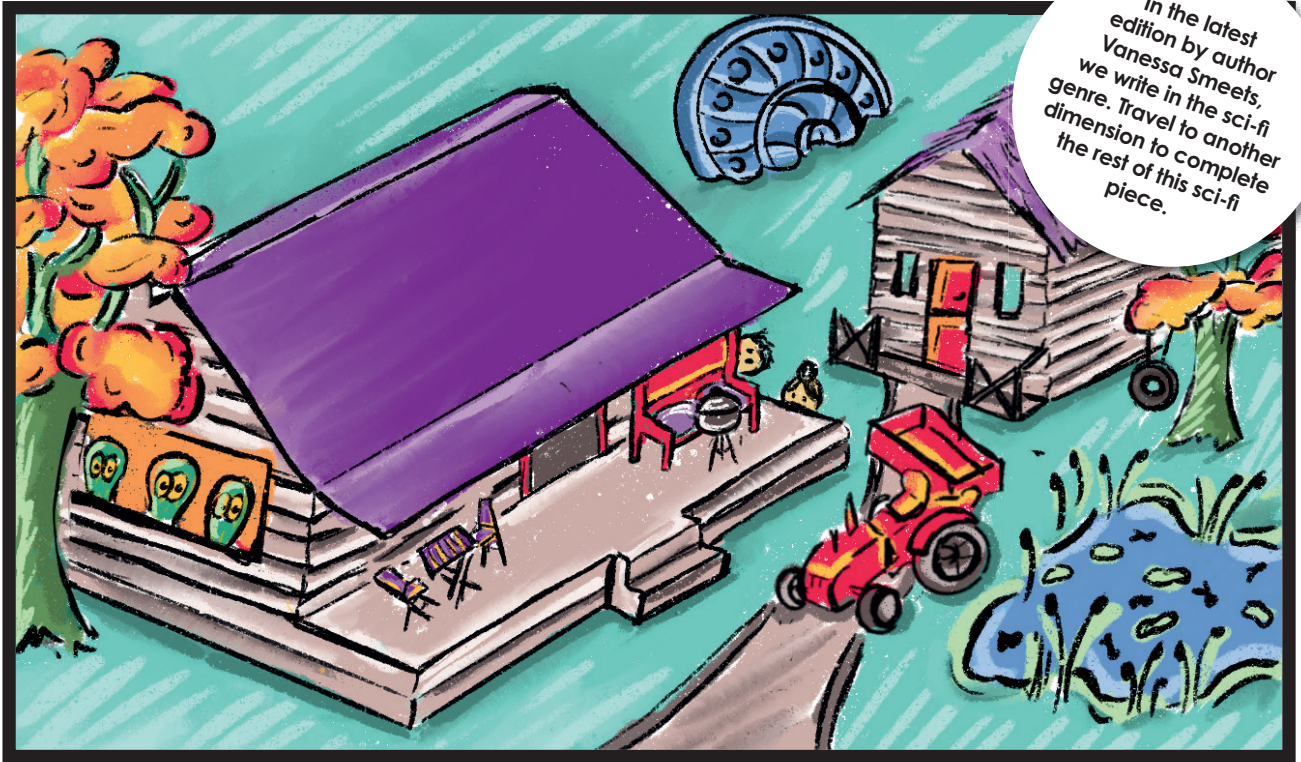
For fans of WALL-E and Toy Story, comes a heart-warming, humorous adventure about a young robot trying to find its way home.

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In the latest edition by author Vanessa Smeets, we write in the sci-fi genre. Travel to another dimension to complete the rest of this sci-fi piece.



Words by Vanessa Smeets

Illustration by Kerry Moolman

## The Unwanted Guest

There was a strange thud coming from our family's crops outside. We assumed it was Dad's tractor that had been left on automatic mode. Little did we know that the thud had actually brought an unwanted guest.

It was a sunny autumn afternoon, but a cold chill filled the air. The smell around us had changed, while Dad was busy preparing a barbeque.

"Do you smell that?" Dad asked, gasping for breath.

"What is it, Dad?" we asked, concerned.

"It smells like a dead rat..."

The smell became stronger and stronger. We had no idea where it was coming from. But then, two glowing eyes appeared in our dining room.



Send your story to [mail@kidsmag.co.za](mailto:mail@kidsmag.co.za) and we'll feature it in an upcoming issue.

**Story to complete...**

Write two or more paragraphs (250 to 500 words) to complete this short story.

**Optional extra details:**

Aliens

UFO's

Disease / Outbreak

**Elements it should include:**

An unexplained phenomenon occurs.

Scientists try to explain it.

Clues are left behind that can lead to a sequel.

**To help:**

**First paragraph:** What does the guest want? Describe the guest in detail.

**Second paragraph:** What happens next? What does the family decide to do?

**Next:** Which science fiction elements could you add? Normally, something happens again...



I was lucky enough to visit the medieval Catholic cathedral, Notre-Dame, many years ago before fire seriously damaged and destroyed a part of it earlier this year. Even after the fire, it still remains a symbol of Paris.

# Notre-Dame de Paris



France

Notre-Dame  
Cathedral  
Paris

## A Gothic masterpiece

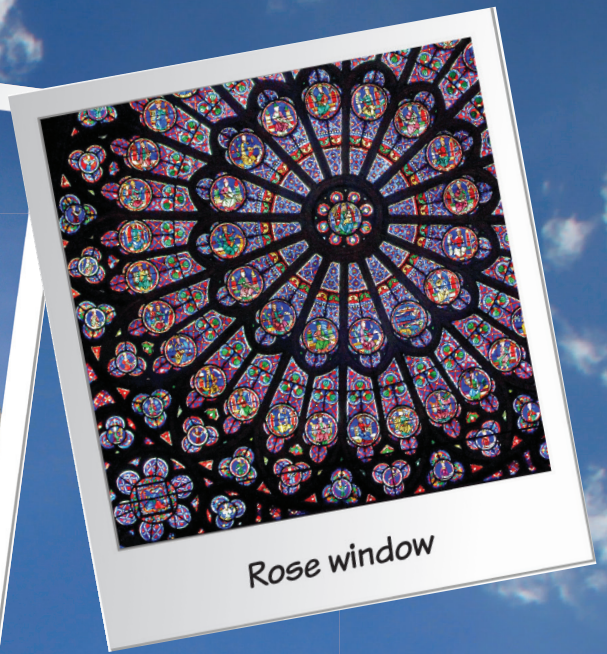
It is one of the finest examples of French Gothic architecture, the Notre-Dame, or 'Our Lady of Paris', was built between 1163 and 1345. Its use of the rib vault and flying buttress, as well as its massive rose windows, realist artwork and sculptures, set it apart from earlier styles.



Rib vaulted ceiling



Flying buttress



Rose window

## Music to your ears

One of the world's largest organs and ten enormous bells are housed in Notre-Dame. The current organ has more than 8000 pipes, as well as 115 stops on five manuals and pedals. Emmanuel is the heaviest bell. It weighs 13 tons and produces the lowest tone at F sharp. This bell has been rung on major historical events and holidays since it was first cast in the 15<sup>th</sup> century.

## A book to the rescue

Victor Hugo published the famous French Gothic novel *The Hunchback of Notre-Dame* in 1831. He wrote it to make people aware of the value of the cathedral's architecture, which was neglected, and often destroyed or defaced. His plan worked. People became interested in the cathedral, which led to a major restoration project between 1844 and 1864.



The 2019 fire

## A devastating fire

The roof of Notre-Dame caught fire on the evening of 15 April 2019, while undergoing restoration and renovation. The 15-hour fire destroyed the *flèche* (timber spire of 91.44m) and most of the lead-covered wooden roof above the stone vaulted ceiling. Notre-Dame's oak framing is one of the oldest structures in Paris.

### ?! GET THIS...

A beehive was built on the roof in the spring of 2013. Nicolas Géant, a beekeeper with many beehives on Paris' rooftops, donated the hive. Notre-Dame hosts this hive to preserve biodiversity.





Words by Su-Mia Hoffmann

Design by Kelly Benson

# Restored or ruined?

Over time, art fades, gets dirty or is damaged. Art restorers are asked to repair artworks. Even some of Leonardo Da Vinci's art has been restored. But not everybody agrees that art should be restored and sometimes artworks get ruined rather than restored...



## ORIGINAL

No, it's not a cartoon character. It's a 16<sup>th</sup> century sculpture of Saint George in the Church of San Miguel de Estella in Spain. This sculpture had become brown and damaged with age, so the church had a local craft company restore it. The restoration turned out to be a complete disaster. The company used the wrong paint, the wrong colours and gave the statue a comical appearance.



## RUINED

It took a team of experts at an archaeological facility three months and 30 000 euros to 'un-restore' the statue. They had to use existing photos and x-rays of the statue to fix the damage. Some of the damage can never be repaired. Many of the original colours are lost forever.



## RESTORED

The church and craft company were fined 6000 euros each for the damage to the 500-year-old statue. The church was also responsible for the cost of the 'un-restoration'.

## ?! GET THIS...

What does an art restorer do? An art restorer repairs artworks. Art that gets restored can be paintings, sculptures or even buildings. The goal is to make the piece as beautiful as when it was made.

Restoration unfortunately depends on the judgement and talent of the restorer. Restoration can change or even ruin an artwork. It's possible that the natural decay is part of the artwork and that restoration is taking away from the integrity of the piece. On the other hand, many well-restored pieces are more valuable than they were before restoration.

# Famous botched restorations



**ORIGINAL**



**RESTORED?**

The Louvre museum in France had this painting by Leonardo Da Vinci restored in 2011. Experts claim that the painting was overcleaned and that it no longer represents Da Vinci's vision.



**ORIGINAL**

This fresco was spoiled forever by the amateur restorer Cecilia Gimenez. Cecilia is 80 years old and volunteered to restore the fresco.



Statue of Lenin, Russia  
When this statue of Lenin was restored, it got a whole different face and a freakish arm and hand.



**ORIGINAL**

**IMPROVED**

In 2017 Emmanuel Santo's bust of Cristiano Ronaldo was unveiled in the Madeira airport. This badly done, silly statue became famous overnight on social media.

**If art is restored, who is the artist? Is it the original artist or the art restorer?**



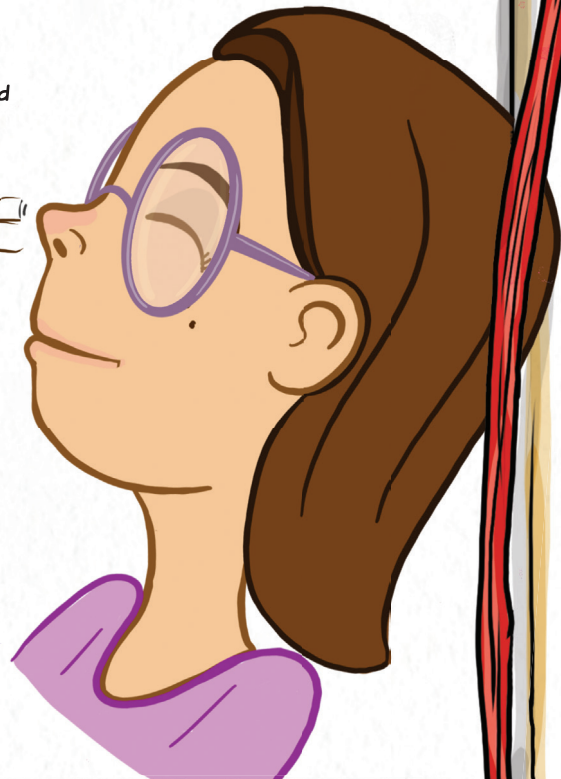
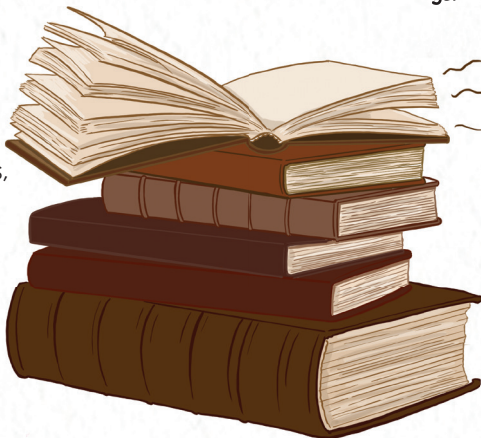
Discuss with your classmates, friends and family and mail your response to [mail@kidsmag.co.za](mailto:mail@kidsmag.co.za)

# Life, the universe and everything **BOOKS**

## A nose for books

There is actually a name for 'old book smell'! If you enjoy catching a whiff of those yellowed, dusty pages of old books, it's called 'bibliosmia'. Scientists can estimate the age of a book by just sniffing its pages. This is called 'material degradomics'.

Mmm! A good vintage!

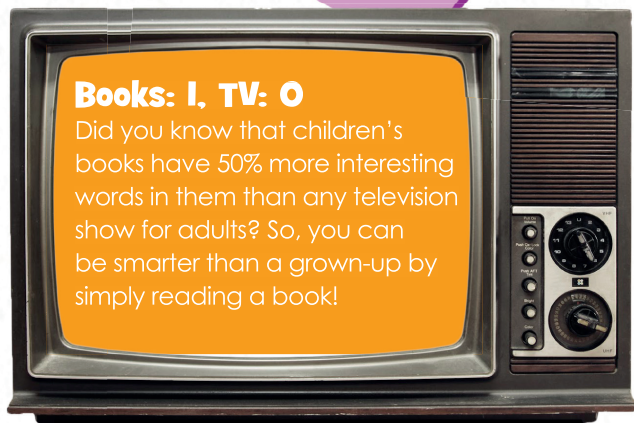


## Books make the world go round

Google states that there are about 130 million published books in the world right now! It is further estimated that almost 800 000 new books are added to that list every year.

## Books: I, TV: O

Did you know that children's books have 50% more interesting words in them than any television show for adults? So, you can be smarter than a grown-up by simply reading a book!



Traces of a bookworm in a book

## Books and bugs

Bookworms are creatures too... These little insects live in and feed on the binding of books. So, if you're a bookworm, remember that actual bookworms also love to devour those pages!

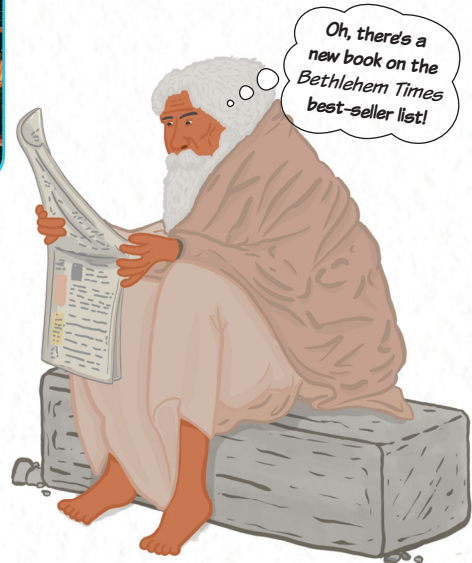
## Crazy collectors

If you are a serial book hoarder, there is a word for you: *Tsundoku* is Japanese for "to let reading materials pile up in your home and never read them".



## That's one popular book

Take a guess what the most-read book, and the world's best seller, is... it's *The Bible*!



Original illustration of *Alice in Wonderland* by John Tenniel

Liddell, aged 7, photographed by Lewis Carroll



## Alice is real!

Then-ten-year-old Alice Liddell is the real-life inspiration behind *Alice in Wonderland*. Author Lewis Carroll was close friends with Alice's parents. Alice asked Lewis to tell her a story while they were on a boating trip, and the Alice that we know and love was born.

## Where to go when you really love books

The Ancient Library of Alexandria in Egypt was one of the largest libraries in the world. The library contained up to 400 000 scrolls! The library was said to be destroyed by a fire, though experts cannot determine how it was destroyed for sure. What we do know is that it is considered one of the greatest cultural losses in the history of mankind. Today, the United States Library of Congress is the largest library in the world. It houses over 38 million books!



# ZZZZZZ

## Talk about long-winded!

The longest sentence ever printed is 823 words! It is a sentence in Victor Hugo's *Les Misérables*.





Words and design  
by Alexander Moolman

# Pixel Art

## Our favourite Visual Styles in Video Games



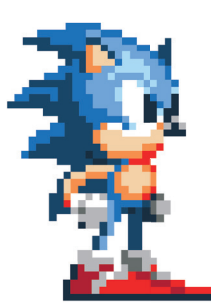
Photorealistic graphics aren't always important! Seen here, Steve from the mega popular *Minecraft*.

Video game graphics are simply amazing these days. In the previous issue of *Supernova* (vol 8.4 – issue 46), we mentioned the next big thing in gaming graphics, but photorealistic graphics aren't always what makes a game good. Sometimes it matters more what visual style the game is in and what building blocks were used to build it. Here's our list of our favourite video game visual styles along with some iconic examples.

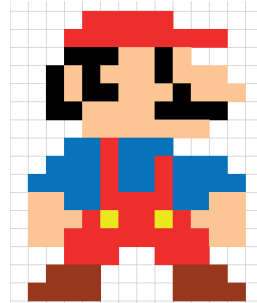


### 8-bit colour grids

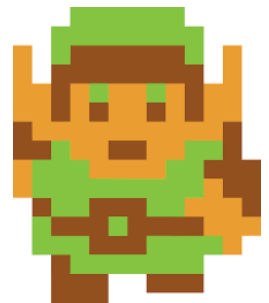
Some of the most iconic video game characters were created in an 8-bit pixel style and that's probably why many modern games still use 8-bit graphics today.



▲ Sonic



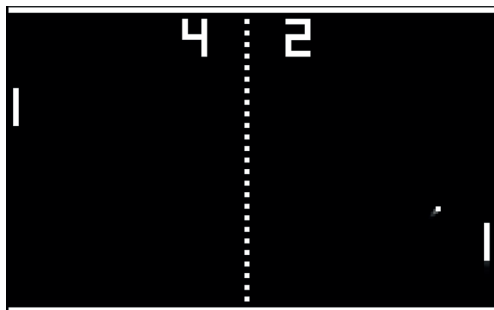
▲ Mario



▲ Link

### The Bare Basics

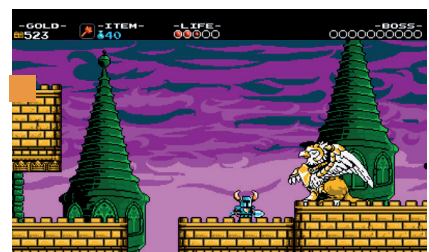
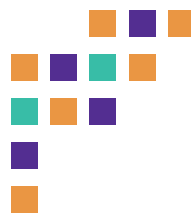
The earliest video games were just blocks of light moving across a screen. Each shape was made up of smaller blocks called pixels and in the early days of graphics, these pixels were either on or off. Pong was a wonder to the world in 1972 despite that it was simply a flicker of light bouncing back and forth on a TV screen.



▲ A game of Pong



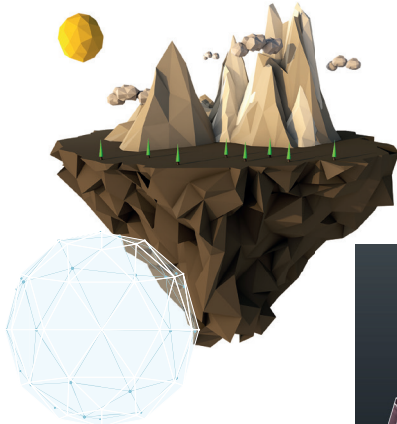
▲ Screenshot from the 2018 smash hit *Celeste*



▲ *Shovel Knight* was released in 2014

## Wireframes

Polygons are many-sided figures that one can use to build complicated shapes. The most common polygon in video games is a triangle. Many triangles are strung together to build 3D wireframes. Sometimes game designers exaggerate the polygons to create a specific style. These games are called 'low-poly' games.



Example of how a character is modelled with polygons



Even round shapes in video games are made of polygons. This is because the geometry of triangles is easier for a PC to calculate than curves.

## Crafted by Hand

Other games are built out of everyday materials, such as cardboard, paper or clay, and then animated digitally later.



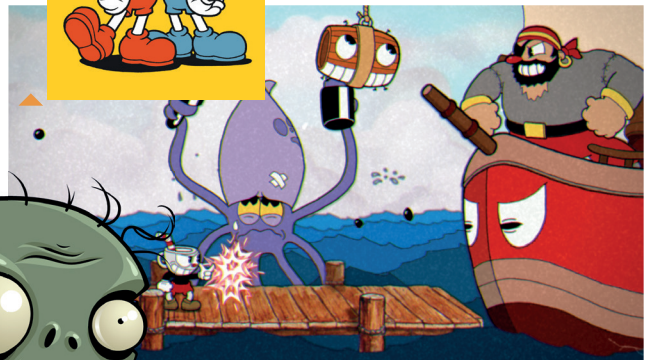
Jump from box to box in Yoshi's Crafted World

## Painted by Hand

Certain video games are hand drawn frame by frame. It's a huge amount of work to make such a game, but the extra effort really shows.



Everything in the game Cuphead was illustrated by hand in a playful 1920's style.



## Anime

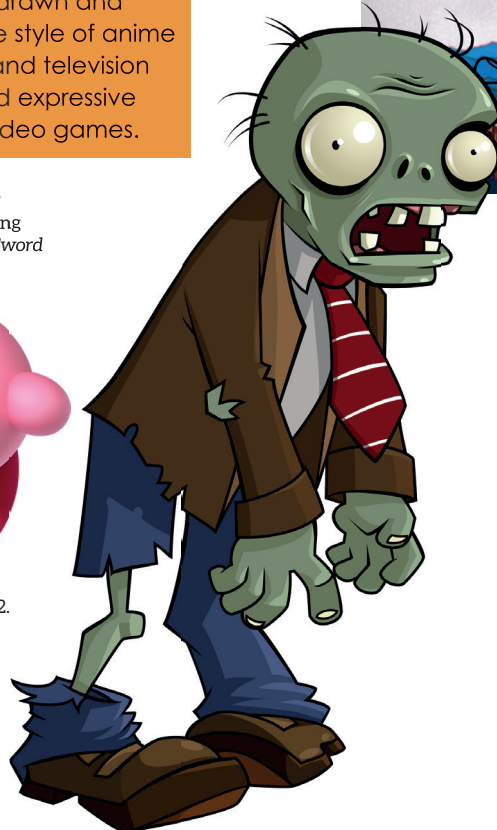
Many video games are drawn and animated. The Japanese style of anime is well known in comics and television shows, but the bright and expressive style lends itself well to video games.



Anime character from the upcoming Pokémon game Sword and Shield



Kirby has been around since 1992.



There are so many different artistic styles that video games are made in. What are your favourite styles?



VS



Do you think photorealistic video game visual styles are more important than artistic styles? We want to hear from you. Send us a message and you could win a prize. ✉️ Send your letters to [mail@kidsmag.co.za](mailto:mail@kidsmag.co.za)



# An Antarctic Adventure

Interviewing the SA flag at the geographic South Pole

It's a sunny day here at the Amundsen-Scott South Pole Station, only  $-20^{\circ}\text{C}$  – a warm day, at least that's what I've been told. I still have to dress like a snowman. It's icy outside and leaving the base for too long is not an option. I definitely want to keep my toes! So, it's armed with a flask of the hottest hot chocolate, the thickest pair of gloves and more than a cupful of curiosity that I finally head out to the great big white world that is the station's backyard. Where am I going, you ask? To visit a local resident of the Geographic South Pole, the South African National Flag.

Along with 12 other flags, it lives in a semi-circle around the ceremonial south pole, only a few metres from the station's entrance. It's basking in the morning sun that I find our friend the flag, flapping to-and-fro in a gentle but icy breeze.

Every object tells a story.  
All you need to do is ask.



Q  
A

**Talk about a spot with a view! Yours definitely isn't the average place to set up camp.**

Far from it I'd say. It's no sunset over the ocean and the weather isn't always great, but just wait till you see the night sky! The *Aurora Australis*, also known as the 'Southern Lights', dance across the sky better than any fireworks ever could.

**Don't get me started on the weather! My hot chocolate is practically frozen already.**

Watch out that you don't get your tongue stuck to it! It's not an easy thing to live in a place like this, especially living outside like I do. The temperature can drop to -80°C. Try flapping in the wind then. It's real dangerous stuff!



Aerial view of the Amundsen-Scott South Pole scientific research station

**If I may say so, you do look a bit worn. Is that only from the weather?**

Well, it's no easy thing spending day-in and day-out here in the open. Once, about a month ago, I had a run-in with a rouge Emperor penguin. The poor guy seemed a bit lost. I'd never seen a penguin so far into the interior before! I tried to give him directions but accidentally flapped in his face. He was not happy and pecked at me ferociously. It's events like these that lead us flags to wear and tear. But our exhausting efforts all pay off in the end! Once a year I get taken down from my post and have a cozy vacation in the station's storeroom, it's absolute bliss!

**Sounds like it's never a dull day here, but doesn't it get a bit much hanging out with the same flags all the time?**

Oh boy, does it ever! Russia and the USA have given each other the cold shoulder for almost as long as we've been here. New Zealand is constantly going on about how they aren't Australia and Australia is always trying to convince me of how great they are at sports. But despite all that, we all signed the Antarctic Treaty in 1959 and that makes us a team for life. I'd have it no other way.

**What was the Antarctic Treaty?**

In a nutshell, the treaty states that no country will ever claim Antarctica as its own, that research will continue peacefully and that all information about Antarctica will be shared. It was originally signed by the 12 flags you see here today. So, that means that I live in the only unclaimed continent in the whole world!



Flag of the Antarctic Treaty

**Wow! So, that's how you ended up in one of the coldest places on Earth.**

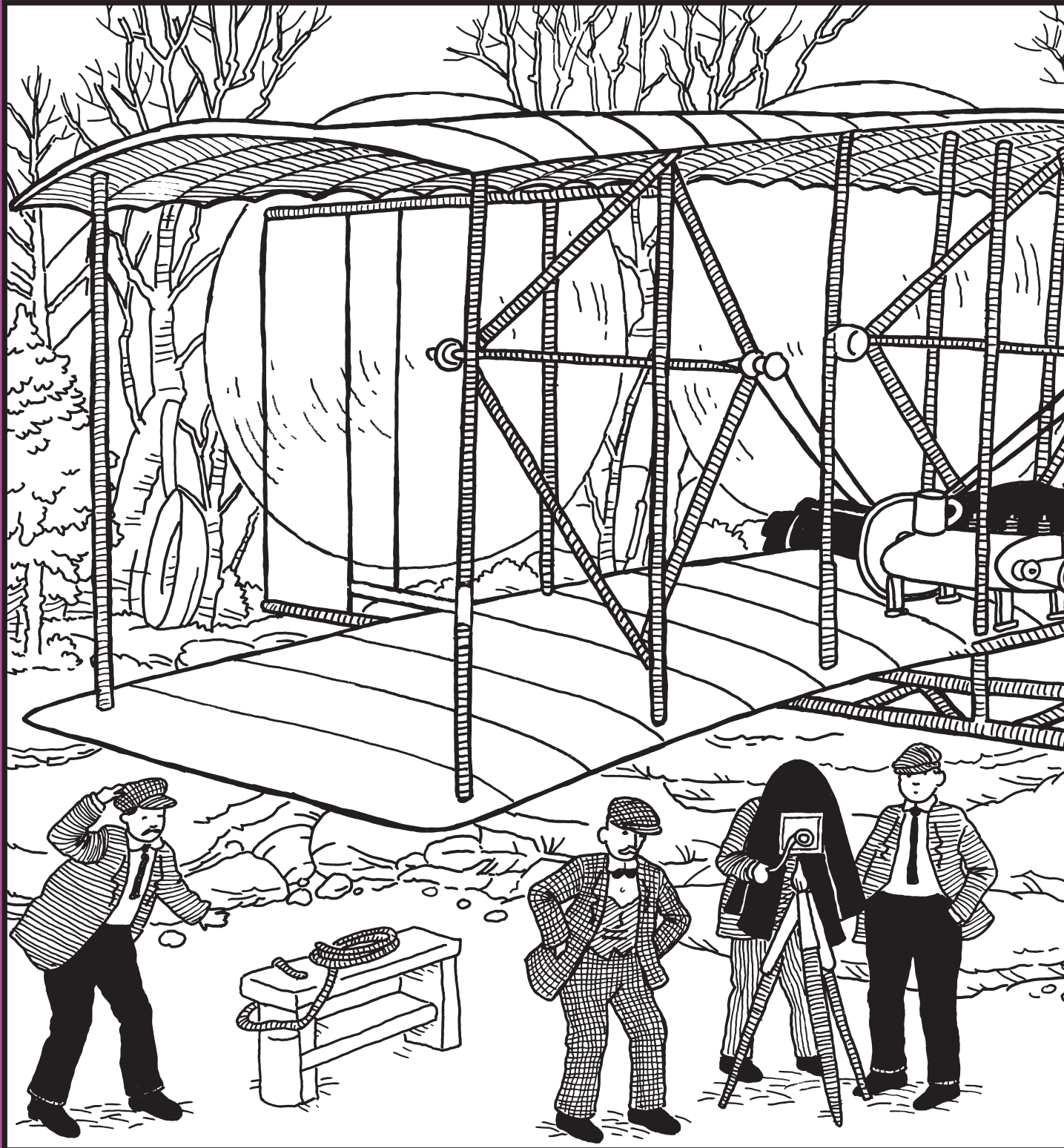
I'm the ultimate symbol of pride for our country and have to be ready for any task. Whether it's to hang outside an embassy or hold on for dear life as arctic winds blow past me, it's my responsibility to remind South Africans that they can do anything they set their minds to.



So, with my toes still intact and my hot chocolate finished, I say goodbye to our national flag and leave him to do what he does best: fly proudly in subzero temperatures while telling Australia that their sports teams only got lucky this time around.

Highlights™

# Hidden Pictures™

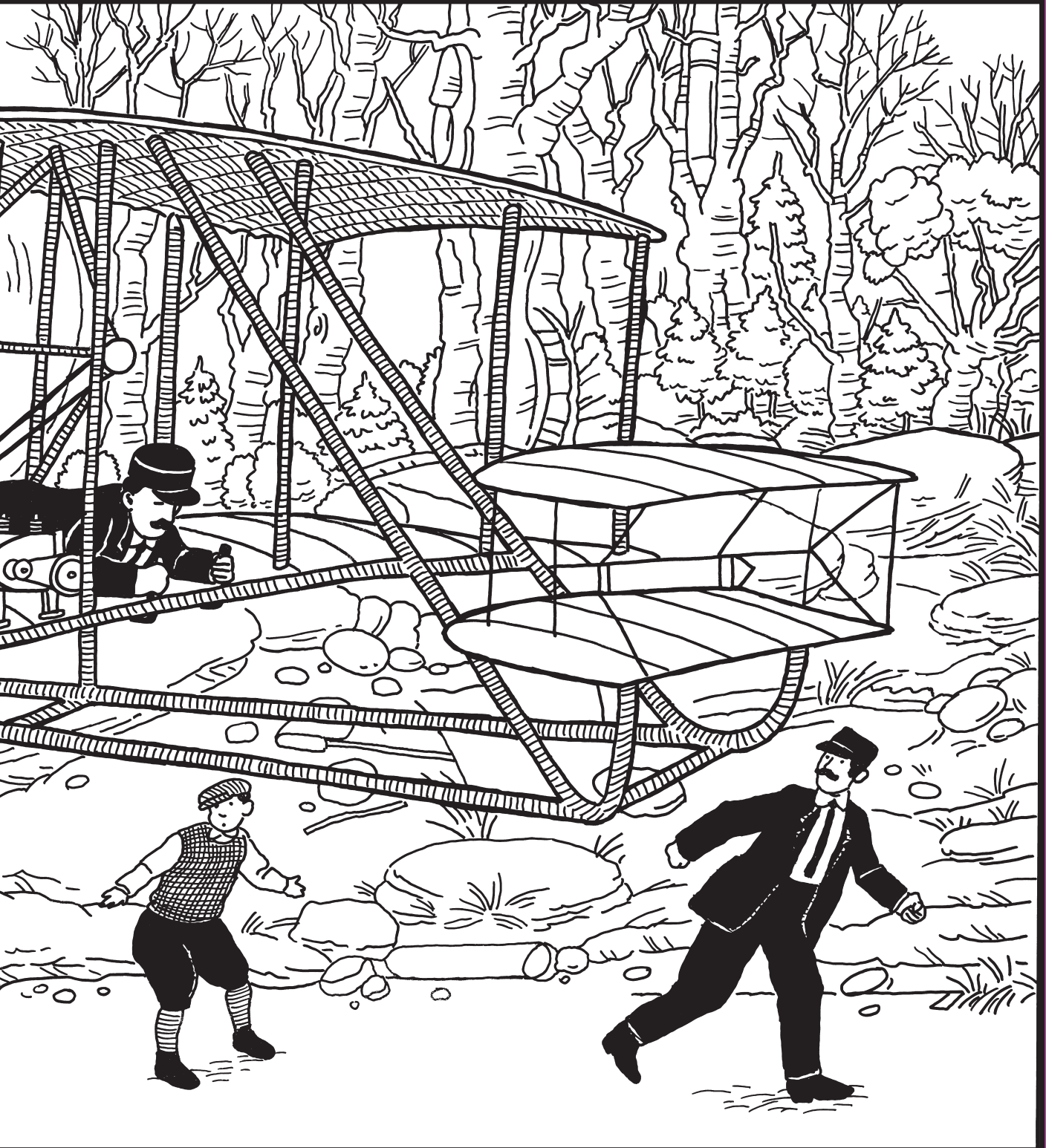


To order a copy of Highlights Hidden Pictures™, go to [kidsmag.co.za](http://kidsmag.co.za). Six books to collect!

# Ready for Takeoff

Can you find all these 12 hidden pictures?

Hoe, shovel, frying pan, pushpin, golf club, mug, pen, bell, feather, mallet, artist's brush, nail, shoe, pencil, ice-cream cone, hairbrush, slice of pie, crayon, mushroom, spatula, key, candle, musical note, slice of cake



Illustrated by Charles Jordan

©Highlights™

Solutions on page 46

supernova 25



Words by Nadja Botha

Illustrations by Benoit Knox and Vicki Venter

# South African

# Bushbabies



Peek-a-boo, I can see you!  
Can you see me?

Look at those beautiful bushbabies. It looks like they are about to get up and start their night.

## Night-time busybodies



### Nice to meet you!

Bushbabies or galagos are small, tree-dwelling primates. You can find them all over South Africa, but they especially love Acacia trees. The gum of the Acacia tree is a healthy snack for bushbabies, especially during winter when there aren't many insects around. They use their scraper-like front teeth to scrape the gum off the branches.

## Watch me leap!

If bushbabies could take part in the Olympic Games, they would definitely win the gold medal for the long jump. Bushbabies can leap up to 4m from one tree to another and up to 2m vertically into a tree. They have strong hind legs to propel them forward and long tails to help them keep their balance. The soft friction pads on their hands and feet help them to grip the bark of the tree when they land. When the bushbaby has to move on the ground, it will hop along, just like a miniature kangaroo.



## Say what?

Even though bushbabies are very cute, they don't have very expressive faces, so they use other ways of communicating with each other. They can make at least 25 different sounds, including grunts, clicks, moans, crackles, chatters, twitters, shrill cries, *tchack-tchack* sounds and even ultrasonic sounds. You need a good ear to understand all of these sounds! A bushbaby's ears are remarkable things. They can be moved together, separately and folded back against their heads for safe-keeping.

### ?! GET THIS...

The bushbaby's cry sounds just like a human baby crying.

This is a multiple exposure image of a bushbaby jumping.

### ?! GET THIS...

There was once a theory that bushbabies are afraid of the dark. This was later proven not to be true. Most animals are skittish when moving around in the dark.

## Night time is play time!

Bushbabies are nocturnal. This means that when the sun sets bushbabies wake up, stretch and groom themselves before going out to forage. The females sleep together in tree-cavities and self-built nests. The males, on the other hand, sleep alone. Each bushbaby looks for food alone, but they feed together.

## Can you see any insects?

Bushbabies have huge eyes. Their eyes are so big that they can't move in their eye sockets. Bushbabies are able to rotate their heads 180 degrees to help them see. Their eyes have expanding pupils to let a lot of light in so that they can see at night. They can also bulge their eyeballs to help them focus on a nice, fat and juicy bug to catch for dinner. Bushbabies have many cone cells in their eyes. This means that they can see colours, even though they are nocturnal animals.



## Can you see that we are different?

There are two species of bushbaby in South Africa: the lesser bushbaby (lesser galago or *Galago moholi*) and the thick-tailed bushbaby (greater galago or *Otolemur crassicaudatus*). They might look similar, but they are actually very different!

# Lesser bushbaby

*Galago moholi*

The long whiskers (vibrissae) near the eyes help to protect the bushbabies' eyes against objects that it can't see in the dark.

Size: 17-20cm (without tail)

Weight: 150 – 200g

The lesser bushbaby has a brownish grey to light brown coat.

### Behaviour

Adult males will avoid running into other males by protecting their territories and marking everywhere they go.

Male lesser bushbabies mark their females by urinating on them.

The lesser bushbaby likes looking good. So, before they leave their nest for a night of foraging, they will groom themselves. They use a special curved grooming claw on their feet, called a 'toilet claw', to make sure that their fur is perfectly clean.

Young bushbabies do not cling to their mothers like monkeys do. The mother will carry her baby in her mouth, almost like a cat.

Its sides and limbs have a yellowish colour and there is a distinct marking between its eyes.

### Habitat

You can find the lesser bushbaby all across South Africa, from woodlands to savannahs and the fringes of forests. These bushbabies love South Africa. The lesser bushbabies have a high tolerance for different temperatures, so that makes South Africa the ideal place for them to live.



# Thick-tailed bushbaby

*Otolemur crassicaudatus*

Size: 29 – 37cm (without tail)

It has long flattened fingers and toes to make it easier to grip tree branches when leaping from one tree to the next.

Weight: 800 – 1 500g

The greater bushbaby has a silvery brown to grey-coloured coat.

Its stomach is a lighter, silvery colour. The greater bushbaby has a long, thick and woolly coat.

## Behaviour

Thick-tailed bushbabies are the most social of all the bushbaby species. Males each have their own territory which may overlap with the territories of one or more females, but the females are the more dominant in this species. Thick-tailed bushbabies love to play! They will chase each other, pull each other's tails, wrestle and bite each other when they play. They will urinate on their hands and rub it onto the soles of their feet to mark their territory while they leap from branch to branch.

## Habitat

You can find thick-tailed bushbabies all over Africa, from Somalia and Tanzania to Kenya and Zanzibar! They are even found here in the eastern parts of South Africa. These bushbabies like living in highlands and forests.

?! GET THIS...

Bushbabies frequently give birth to twins.



Bernard Dupont

## Threats to bushbabies

Bushbabies are facing natural and human threats. In the wild, bushbabies fall prey to owls, snakes, servals and African wildcats. The main threat to the lesser bushbaby is veld fires. They can't travel over long distances on foot, so they can't outrun the fire. Bushbabies are very adaptable creatures because they can live near humans as well as far from humans. This does not mean that humans do not pose a threat. Their natural habitat is being destroyed by human developments, deforestation and pollution.



**?! GET THIS...**

Only six species of bushbabies were recognised by 1974. By 1995, 17 different species of bushbabies were recognised throughout Africa. There is even a chance that more species will be discovered.

## How can we help protect bushbabies in South Africa?

It is important for us to look after the bushbabies in South Africa. We can do this by looking after their natural habitat and by creating new safe areas where they can live without human intervention. Organisations, like the African Wildlife Foundation, help communities to construct conservation tourism lodges across Africa. These lodges not only help the local community, but they also help to look after numerous animals, like the bushbaby.



Have you ever heard the eerie sound of a baby crying in the bush? Have you ever been lucky enough to see a bushbaby?

One thing is for sure, spotting a bushbaby is a treat reserved for those of us who like to spend our evenings outside under the stars.





Make your own toys and crafts with Kraftex FrogzEggz®. It's easy to use, non-toxic and biodegradable. You can reuse it over and over again!

MAKE A

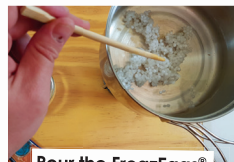
# BUSHBABY PENCIL PAL

WITH KRAFTEX FrogzEggz®

## How to prepare the FrogzEggz®



Get an adult to help you heat a pot of water to 60°.



Pour the FrogzEggz® into the pot.



Stir until you get a clump of molten plastic.

## How to colour your plastic



Knead the clump together.



Paint it with water paint or powder paint.



Knead the mixture until you get the right colour.

## Now let's make a bushbaby!



Roll a clump into a ball.



Mold it into a body with legs.

Wrap the legs around a pencil.



Push little holes for the head, arms and tail.



Add two arms.



Roll a long tail.



Roll a ball.



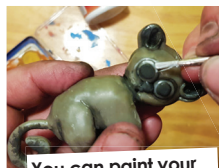
Add ears.

Make holes for eyes with a chopstick.



Put it all together.

Add eyes.



You can paint your FrogzEggz® creation.

**?!** GET THIS...

You can reheat and remold the plastic as often as you want!



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# ACTIVE EARTH SHAPERS

VOLCANOES AND THEIR AWESOME POWER

Words by Saskia Brits

Design by Madelie Snyman

Since the earliest history, volcanoes have quite literally moved and shaped the earth! These mountainous giants plague nature and people to this day. At present there are a staggering 34 volcanoes that are erupting right now and there are about 50 volcanoes around the world that are active and that may erupt at any time.

## VOLCANO... WHAT?!

A volcano is an opening on the surface of the earth. The opening acts like a window that can let out hot air trapped inside, but instead of hot air, it is lava, ash, rock and gases. When these materials escape, it causes an eruption. Eruptions can explode, which causes materials to shoot out forcefully, or it can be calmer, which causes materials to flow slowly from the opening. Volcanoes form mountains because of the rock, ash and lava pile-up that happens when they erupt.

## VOLCANO... HOW?!

Volcanoes form when magma (hot liquid rock and dissolved gases underground) erupts onto the earth's surface (which then becomes lava, hot liquid rock on the surface).

The earth's crust is five to 60 kilometres thick and it is made of tectonic plates. These plates float on a layer of magma. Magma is lighter than the solid rocks of the Earth's crust and because of this it can easily force its way into spaces between rocks.

**THE STATE IT'S IN:**

**Active:**  
Active volcanoes are alive and well, erupting currently or often.

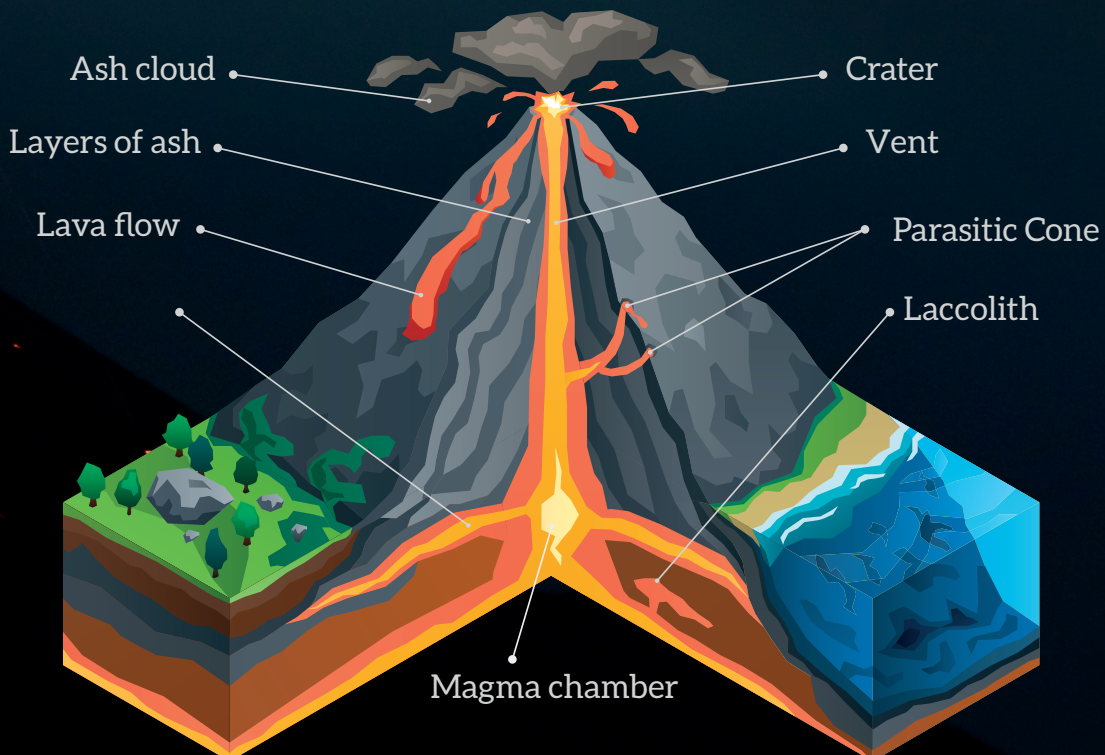
**Dormant:**  
Dormant volcanoes are taking a rest. They do not erupt often, but may erupt again.

**Extinct:**  
Extinct volcanoes have retired. They will likely not erupt again.



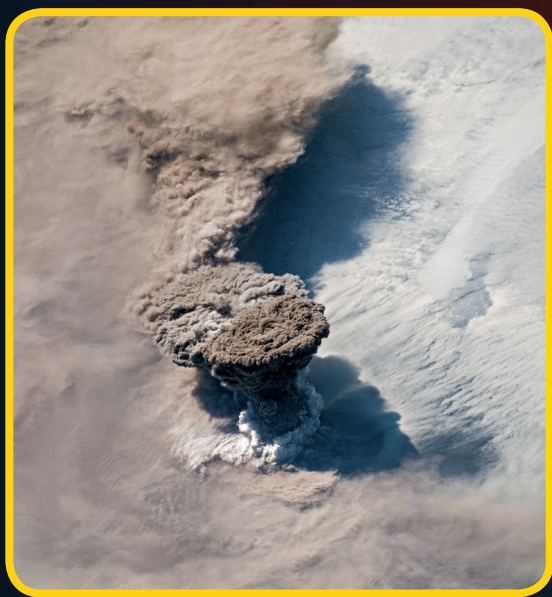
The movement of tectonic plates away from each other allows magma to fill the spaces and push its way up to the surface where it erupts. It can also rise when tectonic plates move toward each other. A part of the Earth's crust then gets shoved deeper into the interior. This creates lots of heat and pressure, which forces the crust to melt and turn into magma. The magma becomes less dense and rises to cause an eruption.

## THE ANATOMY OF A VOLCANOE



## WHEN TO GET OUTTA HERE!

Active volcanoes may erupt in many ways, but it is best to always keep a safe distance! Active volcanoes have pressure build up which can cause eruption at any time. Before eruption, magma builds up in a volcanic vent (a chimney-like tunnel leading to the opening) from a magma chamber (a huge space filled with hot magma). The pressure causes the magma to either burst out violently or slowly ooze out. It then turns into lava, which is about 1200 degrees Celsius! It can melt anything in its path, but usually moves quite slowly. Eruptions can cause landslides or mudslides and avalanches in colder areas, and also tsunamis. It also releases a dense cloud of hot material, called pyroclastic flows, which are extremely dangerous as it moves very fast. Eruptions also create ash clouds and acid rain. So, best to have a healthy respect for these monsters of nature.

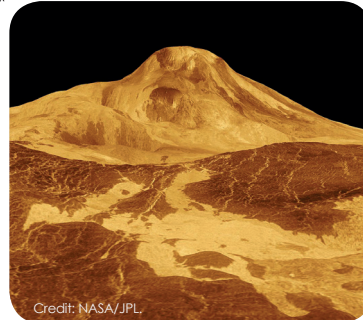


▲  
*Photograph of the eruption of the Raikoke volcano taken from the International Space Station.*



▲  
*Lava*

## ?! GET THIS...



Credit: NASA/JPL

**Volcanoes also appear on other planets and moons in our solar system. Currently, the moons of Jupiter, Saturn and Neptune all have active volcanoes erupting and causing havoc. Seen here is a computer-generated image of Maat Mons, the highest volcano on Venus.**

## VOLCANOES KILL THE EARTH, OR DO THEY?

It is true that volcanic eruptions can cause irreparable damage to the environment. The gases that are released from these eruptions are harmful and can pollute the planet, but can also be deadly to living things as it causes asphyxiation.

But, these guys aren't all bad... volcanoes also happen to fill the soil with rich nutrients, which is great for farming and agriculture. They also provide minerals like gold, silver and even diamonds. Volcanoes are responsible for creating hot springs (a tourist favourite in many countries!) and generate geothermal energy (a form of clean energy).



▲  
*Eruption of Mount St. Helens.*

## SPOT THE DIFFERENCE!

There are different types of volcanoes, some are more dangerous than others.

### THE WELL-KNOWN CINDER CONE

These are the most common types and look like typical volcanoes (a symmetrical cone shape). They are usually quite small at 91 metres tall and rising 366 metres.

In 1943 a farmer in Mexico was busy clearing his cornfields when he noticed a crack in the ground. He carried on with his task only to hear a thunderous sound and feel the ground rumbling. The crack had swollen and was now higher with a small hole on top. Ashes were pouring out from the hole. He smelled sulfur and heard a whistle. He escaped the area just in time. The Paricutin volcano has taught unwitting researchers a lot about volcanoes.

### THE FEARSOME STRATOVOLCANO

Stratovolcanoes are large up to 2 438 metres high. They are very steep and have a small crater at the top.

The Mount St. Helens volcano, in Washington, that erupted in 1980 killed 57 people and destroyed 596 square metres of forest. Winds blew 520 million tons of ash across the land, which caused complete darkness in places as far as 400 kilometres away from the volcano!

### THE BIG AND SLOW SHIELD VOLCANO

Shield volcanoes are huge and have gentle slopes with wide bases and flat summits. Their slopes look like the outline of a medieval knight's shield, hence the name.

The Mauna Loa in Hawaii is the world's largest volcano and is a shield volcano. It is 17 000 metres from its base underwater to the summit, which is 4 170 metres above sea level. It is quite an active volcano and is carefully monitored.

### THE CATASTROPHIC CALDERA

Calderas are bowl-shaped holes (craters) that form when volcanoes cave into an empty magma chamber. Calderas are formed during a violent volcanic eruption.

The Yellowstone caldera is an active 'super volcano' and spans 70 kilometres across. According to a recent study, when this giant erupts, it will take the entire Yellowstone National Park down with it and will cover a large part of the United States in ash!



Paricutin



Mount St. Helens



Mauna Loa



Yellowstone caldera

## CLOSER TO HOME

Some of the world's most dangerous volcanoes are on our continent. One of these is Mount Nyiragongo in the Democratic Republic of Congo. This guy has erupted at least 34 times since 1882 and is still active! The most recent eruption happened in 2002 and nearly destroyed the entire city of Goma. 147 people were killed by gases, earthquakes and lava flows. The carbon dioxide seeped into the ground and caused many deaths. This volcano is famous for being the most dangerous one in Africa.



Mount Nyiragongo, Democratic Republic of Congo



The Erta Ale, Ethiopia

## AFRICA IS SPLITTING IN TWO!

Recent NASA images revealed interesting and scary data about volcanoes in Africa, one being the Erta Ale in Ethiopia. These volcanoes are causing a massive crack in the Earth. This is called the 'gateway to hell' (sounds a lot scarier now!) and is a part of the Danakil Depression in Ethiopia. Volcanoes like the Erta Ale have molten lava lakes which are as hot as 1 100 degrees Celsius. The crack reveals these lakes at the bottom. Scientists say that Africa will split in two if these plates continue to move away from each other!

## WHAT ABOUT US?

Luckily, we in South Africa are quite safe when it comes to volcanoes, but did you know that we have our own active volcano?! Our volcano is a shield volcano that is located on Marion Island in the southern Indian Ocean. This island is about 2 000 km southeast of Cape Town. It is a hotspot for environmental scientists. The last eruption was in 2004. The volcano spewed gas and ash. But, the largest reported eruption happened in 1980 where a large explosion caused lava flows. This volcano seems to be about 450 000 years old!



Marion Island



Mount Vesuvius, Pompeii

Finally, you may have heard of the historical eruption of Mount Vesuvius that took the grand city of Pompeii (near Naples in Italy) down with it in A.D. 79. The pyroclastic surge buried the city in a blanket of ash and gas that was several metres deep.

**These scary events are still very real threats today. Volcanoes cause much devastation to that in their path, still we cannot help but admire their fierce power... just make sure to admire them from afar!**



I can do that!

# Underwater Volcano

Underwater volcanoes can cause earthquakes making tsunami-like waves. A massive volcanic eruption happened in January 2018, but few people realised what was going on. A passenger on a flight from Samoa saw a strange mass floating in the sea off the coast of New Zealand and took photos of it. Scientists got hold of the photos and realised that this was a large floating rock that spewed from a massive volcanic eruption, in fact the largest eruption that was ever recorded!

The Havre Seamount was the volcano responsible for this eruption. This caldera is about 4.5 kilometres wide and spewed lava from 14 different vents. The volcanic material, such as pumice rock, washed up on shore, but also scattered the seafloor causing devastation to the underwater environment.



All you will need is:



1 litre bottle



Food colouring



Citric acid



Water



Bicarbonate of soda



Cooking oil



- 1 Fill your 1 litre bottle with water about one quarter of the way, that's about three quarters of a normal cup.
- 2 Add a few drops of food colouring to the water.

- 3 Carefully pour the oil into the bottle until the bottle is almost full. If you have one, use a funnel to help you avoid spilling any liquid. Leave the oil to settle for a while.
- 4 Once the bubbles have disappeared and the oil and water are properly separated then we're ready for the next step! Carefully add a teaspoon of citric acid into the bottle.

- 5 Carefully add a tablespoon of bicarbonate of soda into your bottle. Now, watch you volcano erupt!



TIPS...

Have some paper towels nearby in case you spill.

If your volcano starts to slow down, add more citric acid and bicarbonate of soda to start it up again!

# the origins of

# Yellow

It's not very hard to find the colour yellow all around us. Just take a look out the window and you'll see flowers, insects and even our own clothing all brimming with this bright colour. But how did yellow come to feature in everyday life? That's a story that starts far back in time.

## Yellow in nature: Ochre

Nowadays, yellow isn't just a colour used for decoration. It comes in a multitude of shades, from bright to light, and people use these to set a mood or depict certain emotions. But where did it all start? With yellow ochre. Known as an 'earth pigment', ochre is a natural mineral that is found in rocks or sand across the globe. It was among the first minerals used by humans.



Yellow ochre

?! GET THIS...



Clothes were dyed yellow by using saffron. This spice was very expensive, so the colour became a symbol of royalty or status in countries, like China and India. This is a painting of the Qianlong Emperor of China from the 18th century.



Cave painting of a horse in Lascaux, France

Yellow ochre



Animal fat



## Prehistory

Ancient peoples also seemed to paint their walls. One of the first cave paintings that uses yellow can be found in Lascaux, southwestern France. This cave painting of a horse is said to be around 17 300 years old!

### How it's made...

Prehistoric yellow paint was made with clay containing yellow ochre that was mixed with spit or animal fat to create a paste. This paste would vary in shades from yellow to brown depending on the sand.



Death mask of the ancient Egyptian King, Tutankhamun

Orpiment mineral



Natural gum



+

Crushed orpiment



# Ancient Egypt

## How it's made...

The ancient Egyptians used many natural minerals to create paints, including ochre. For brighter shades of yellow, they chose to use the mineral 'orpiment'. Ground orpiment was blended with animal glues or natural gums to create a rich lemon or canary yellow.

In ancient Egypt, each colour had a symbolic meaning and yellow was the colour of the gods! It was believed that the skin and bones of the gods were made of gold. Meaning 'eternal' and 'indestructible', yellow was often blended with precious metals, like gold, to make depictions of the gods glow. Priests or priestesses of ancient Egypt were said to sometimes paint themselves yellow to 'become' closer to the gods.



Hieroglyphic painting found in King Tutankhamun's tomb.



Bust of the ancient Egyptian queen, Nefertiti

# The Renaissance

## How it's made...

In the 1500s, artists used oil paints, made by mixing yellow pigment made with yellow ochre, with linseed oil.

During the 16<sup>th</sup> century, yellow was associated with the disciple that betrayed Jesus Christ, Judas, and was used to depict envy or jealousy in artworks. It was often the colour of illness, as some cases of yellow fever would turn patients' skin a mild shade of yellow. And later, in 18<sup>th</sup> century England, if you were seen to be a coward, you were called 'yellow-bellied'. Cowards were said to have a slippery nature, like reptiles. Some snakes and lizards have yellow undersides.

Yellow pigment



+

Linseed oil



The Arrest of Christ (Kiss of Judas)

A fresco painting by Giotto di Bondone, 1306

Yellow-bellied lizard



# The Modern Era

## How it's made...

In 1856, a chemical process that could create synthetic versions of natural pigments was discovered. This meant that more colours could be manufactured faster. At the end of the 19<sup>th</sup> century, there were over 8000 types of synthetic dyes to choose from, yellow being one of them!

New synthetic dyes meant that 18<sup>th</sup> and 19<sup>th</sup> century life was more colourful than ever! Yellow became the most popular way to attract attention in the French court. This meant that yellow hats, gloves and dresses were worn by all the fashionable folk of the time. Even famous artists were great admirers of the colour. Just think of Vincent van Gogh's 'Sunflowers' painting.



**Self-portrait with straw hat**  
by Vincent van Gogh, 1887



**Sunflowers**  
by Vincent van Gogh, 1880s



**Young Girl Reading**  
by Jean Honoré Fragonard, 1769



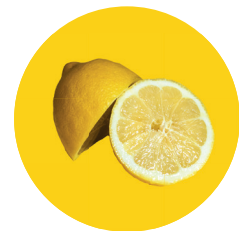
Pikachu

## What about now?

Think of Pikachu, Spongebob, the Minions and even the emojis on your phone. Yellow is a colour of cheerfulness and optimism. It is a symbol of happiness. Once a colour to help depict stories, yellow has become a main feature in our everyday lives.

## TO BEE OR NOT TO BEE

It is not uncommon for certain species of insects and small critters to have evolved to have yellow markings as a way of warning predators against messing with them. Some fly-like insects mimic the distinctive yellow and black colouring of bees to trick predators into thinking they're armed with a sting! Fire salamanders mean business though, as their bright yellow markings warn potential predators of their intensely toxic skin and their ability to squirt a highly irritating substance into the eyes or mouths of would-be threats.



by Devin Oelofsen and Ashton Kirsten

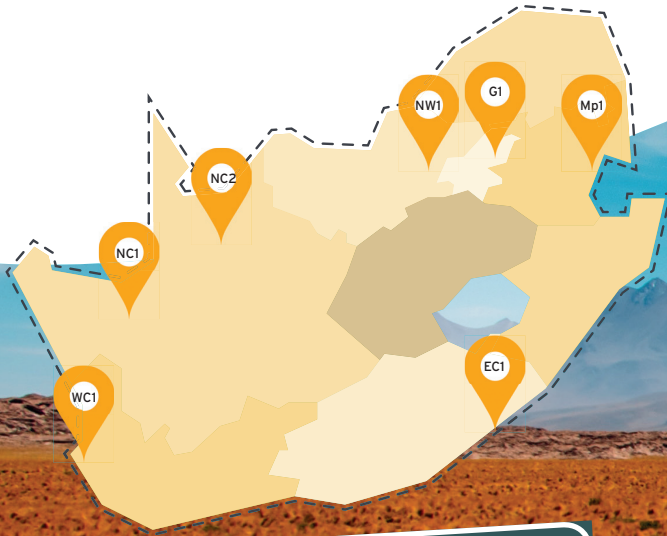
From cave walls to famous artworks, clothing to a famous song, this undeniably cool colour has had a long journey through history and is bound to keep the future bright too.



# Talk of the Town

by Devin Oelofsen

Whether it's a big city or a tiny town, just like people, each one has a name. Most places have pretty normal stories of how they were named, while others are brimming with mystery and legend. Here are some interesting town names that might just leave you scratching your head in wonder or even laughing out loud.



## EC1 Coffee Bay ↑

This is an area rich in natural beauty, diverse wildlife, rolling hills and great surfing spots. Coffee Bay is a popular getaway for adventurers of all types. This town, with a population of only 600 people, was named after a shipwreck that lost its cargo of coffee beans just off the coast. The beans were washed up onto the beaches and are said to have grown into a great forest of coffee trees. Although there are none of these trees left, the name has stuck, just like a good cup of coffee is sure to wake you up in the morning!

## NC2 Hotazel ↓

A pretty self-explanatory name, Hotazel is in fact a play on the words 'hot as hell'. And it's no joke! This small mining town has only 600 households and is known to survive some of the hottest weather in the whole of South Africa. Temperatures reach a blistering 40°C. I bet you'd be able to fry an egg outside in that kind of heat.

## NC1 Pofadder ←

If you think this small town was named after our reptilian friend the puffadder, you would be mistaken! In fact, this town was named after a Korana chief, Klaas Pofadder, who lived and died in the area. Officially named in 1875, this area finds itself covered in a blanket of Namaqua daisies every August. Talk about picture perfect!

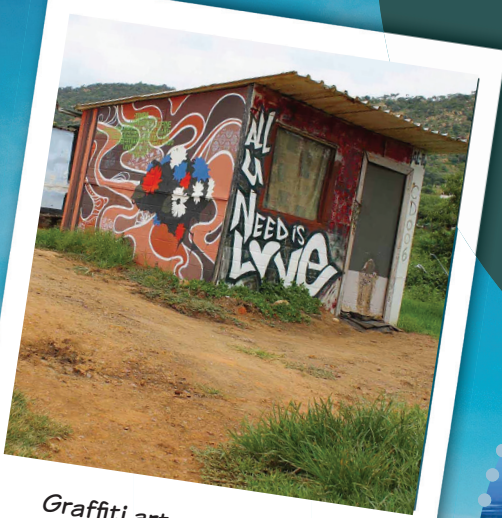


Welcome to one of the hottest places in South Africa



Namaqua daisies in Pofadder

## NW1 Tweebuffelsmeteenskootmorsdoodgeskietfontein



Graffiti artwork in Mamelodi

Talk about a mouthful! This town may be small but its name sure is not. Directly translated from Afrikaans to 'two buffalos shot dead with one shot spring', this ambitious town was founded in 1866. Legend says that the town was named after the impossible event of someone really shooting two buffalos with only one shot, but no one really knows. The town has been awarded the longest name in South Africa and is also one of the longest names in the entire world!



## G1 Mamelodi



A name that sounds melodic must surely have a lyrical background story, right? Mamelodi, meaning 'mother of melodies' in Setswana, was actually a name given to President Paul Kruger by the locals due to his ability to whistle and imitate bird calls. Talk about a song that can't get out of your head!

## WC1 Tietiesbaai



Giggling is unavoidable when you see this name pop-up on a map. The town isn't actually named after something so bizarre, but after a Frenchman, Jacques Titius, who was a trader in the area for a long time many years ago. Situated in the Cape Columbine Nature Reserve, this bay is home to the last manually controlled lighthouse in South Africa and is the perfect spot for camping.

## Mp1 Mbombela



Situated in the province of Mpumalanga, meaning 'place of the rising sun', this great city is only an hour's drive away from one of the best nature reserves in South Africa, the Kruger National Park. The town, originally founded as 'Nelspruit' in 1895, came about because of construction on a railway that would transport gold between Pretoria and Mozambique. Now a buzzing city, it was renamed in 2009 to the Siswati name Mbombela, meaning 'a lot of people together in a small space'.



City view of Mbombela

A long name, short name or any other kind of name, it's pretty clear to see that it really is all in the name. Whether you're laughing at them or trying to pronounce them without taking a breath (you know which one I'm talking about) South Africa truly has some interesting places. What's the strangest town name you've ever heard of? Send your town names to [mail@kidsmag.co.za](mailto:mail@kidsmag.co.za)



Words by Devin Oelofsen

# Horse Riding

Meet Caitlin (11) and Lienke (11). While they may seem like just your average kids, they actually do something extraordinary: horse riding! Just like Woody and Bullseye, Caitlin and Lienke love to spend their spare time with their trusty steeds. Horse riding was once the only mode of transport, but nowadays we have cars, trains and planes, so we don't need a horse-drawn carriage to take us to school. That doesn't mean we've stopped enjoying a ride every now and then.

## WHAT IS HORSE RIDING?

Riding is a great form of exercise that is enjoyed by people of all ages. Being outdoors on a horse is the best thing about the sport according to Lienke. It is a sport that involves the skill of riding on a horse's back with the help of equipment, like a saddle, bridle and reins. While a saddle is used to make sitting on a horse easier, an experienced rider will use only the reins and their own legs to tell a horse what to do.

## RIDING A HORSE

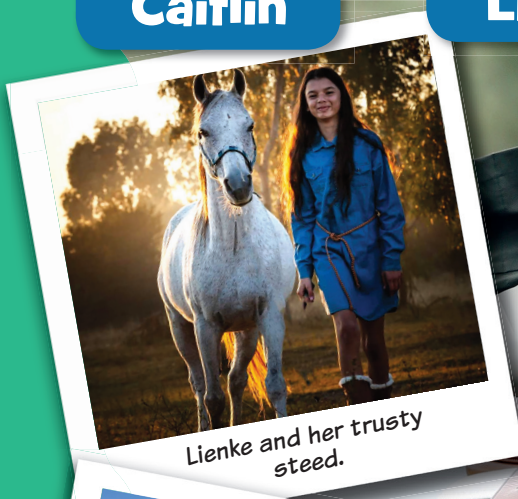
Horse riding can be a tricky business and things like falling off are part of the job, but don't worry, it's not as scary as it sounds! Horses are like us and can also get nervous. This often means that they stop too quickly. When this happens, the rider can sometimes slip off. Riders are taught all the skills they need to avoid falling, like holding the reins with two hands, wearing a helmet and making sure they sit properly in the saddle. Caitlin advises that the best thing to do in a situation like this is to climb back on and do your very best.



Caitlin



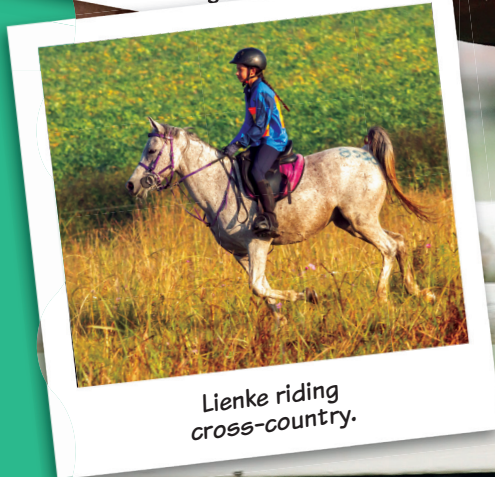
Lienke



Lienke and her trusty steed.



Caitlin wins a ribbon for show-jumping!



Lienke riding cross-country.



# IT'S ALL ABOUT STYLE

This sport is anything but boring and has a variety of riding styles to choose from. While Caitlin may love show jumping, others may prefer other riding styles, like dressage or endurance.

Show jumping is all about speed and accuracy. Similar to running through an obstacle course, a rider must get their horse from the beginning to the end as fast as they can without knocking down poles or missing any jumps.

Endurance riding is all in the name. From galloping across fields to jumping over obstacles, this riding style is the ultimate test of fitness. Also known as 'cross country' riding, these courses are long and filled with surprises, like stone walls, ditches and logs.

Just like ballerinas that seem to float across a stage, dressage is the most beautiful event in horse riding. Don't be fooled though! Dressage is a difficult form of riding that takes years of dedication. Riders must teach their horses to complete difficult movements, like trotting in place, lifting their knees up high and zig-zagging their legs.



Caitlin flying over a jump!

*"My favourite thing about riding is jumping. Horses make me feel like I'm flying!"*  
- Caitlin McGavigan

Caitlin just recently found out that she made the team for the South African National Equestrian School Association (SANESA) Gauteng finals for 2019! Well done, Caitlin!

## Riding gear



Helmet



Gloves



Saddle



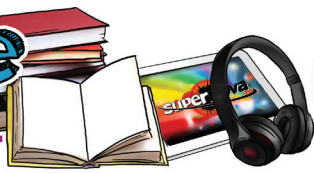
Boots & Chaps

*"I love to spend time outdoors with my horse. It's the best way to get to know him!"*  
- Lienke Barnard



## WHY NOT JOIN IN THE FUN?

This sport needs a lot of practice and a good teacher that can help you learn the proper way of handling a horse. The good news is that there are riding schools throughout the country. Ask your parents to help you search for a school near to where you live or ask friends about where they go riding. Having a riding buddy is sure to make it even more fun!



Who's the fastest kart racer at Supernova? We got ourselves a copy of *Crash Team Racing* and put our racing skills to the test.



# Crash Team Racing

*Fast and Fun kart racing For the Family*

20 years since the release of the original, *Crash Team Racing* is back with a fast-paced kart racer that is a total blast to play. It's a breeze to jump right into a race, but quite tricky to master. If you're looking to win every race or beat the Oxide time trials, you'll have to master the unique slide and boost mechanic. With a precision tap of the boost button and a perfect slide around a tight corner, you can combo your way into a speed boost and blast yourself into first place. That is, if you can also avoid the missiles, TNT crates and explosive beakers your opponents can bombard you with!



Coco jumps through the air for some extra boost when she lands!

Play against up to four friends locally.



The only buzzkill that we noted is that the incredibly detailed and beautiful racetracks take quite a long time to load. Hopefully, that's something the developers will patch up in future updates.

There's a challenging single-player campaign for you to play through on your own. But, the game is most fun when enjoyed with friends. Play with up to four friends split screen or challenge other racers in online racing.

**If you enjoy comfy, couch kart-racing, this game really hits the spot.**

*Crash Team Racing Nitro-Fueled* is available on the Xbox One, PlayStation®4 System and Nintendo Switch®.



# Hamba Kahle, Johnny Clegg!

## Saying goodbye to a legend.

Many of the *Supernova* team members were big fans of the musician Johnny Clegg. He died in July 2019 from pancreatic cancer at the age of 66.



Johnny Clegg was a South African musician, known around the world as the 'White Zulu' and for his hits 'Great heart' and 'The crossing', among many others. In a time when it was unheard of for a white man to be singing in an African language, Johnny pushed the boundaries of culture and challenged an unfair system.

For many people around the world, Johnny Clegg was a hero. Apart from his music, he was also a respected anthropologist (someone who studies human cultures) and he was awarded many prestigious awards during his lifetime.

People like Johnny Clegg fill us with their energy. They show us what it means to be a great human being and to go beyond the limits that society sets for us.



South African  
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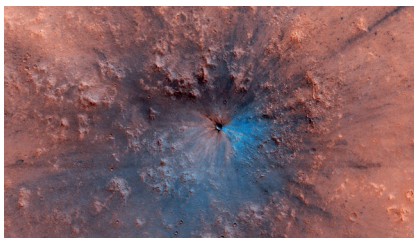
Join more than 100 authors, poets, storytellers, creators and expert facilitators for illuminating discussions, impassioned debates, book launches, workshops, book readings, children's activities and live cookery demonstrations.

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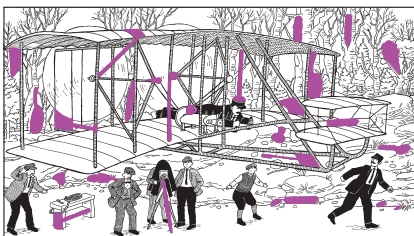


@SABookFair @sabookfair South African Book Fair #SABF2019 2-8 SEP 2019

# Solutions



A spectacular crater photographed by the Mars Reconnaissance Orbiter



**Atlantis (p.2) launches into space!**  
Read about the new space race in the next issue of *Supernova*!



Story and artwork  
Maya LeMaitre

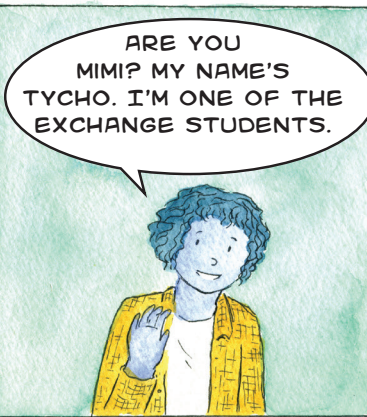
# MIMI'S LIFE ON MARS



...I KNOW IT'S IN THE NAME OF SCIENCE, BUT I DON'T THINK WE CAN SET A ROCKET OFF AT SCHOOL, TINA!



LET'S GET TO CLASS! IT'S OUR FIRST LESSON WITH THE EARTH MOON KIDS.



ARE YOU MIMI? MY NAME'S TYCHO. I'M ONE OF THE EXCHANGE STUDENTS.



THE OTHERS, NEIL, NAJMA AND SELENE, ARE OVER THERE.



OH, GR-OOL! NICE TO MEET YOU!



DID YOU SAY "GROOL"? IS THAT MARTIAN SLANG?



GREAT...COOL...! WHY AM I SO TONGUE-TIED?

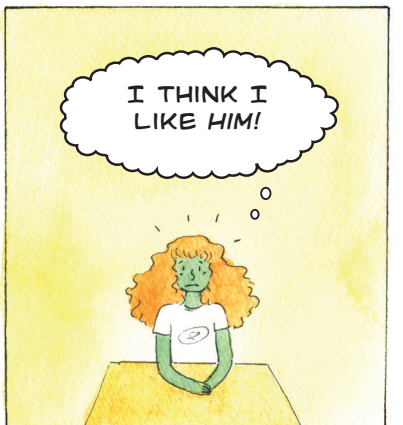


AHEM, WELCOME! I MOVED HERE FROM EARTH A FEW MONTHS AGO, SO WE'RE BOTH KIND OF NEW!



GROOL! WE WERE NEIGHBOURS. MAYBE YOU CAN SHOW ME AROUND?

I'D LIKE THAT!



I THINK I LIKE HIM!