

Made in **RSA!** 

INCLUDES 

Hidden Pictures™

supernova

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MEGA CREATURES

OF THE DISTANT PAST

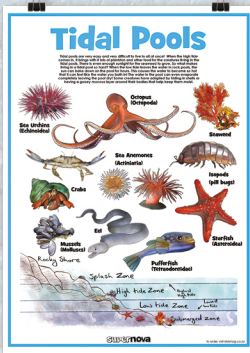
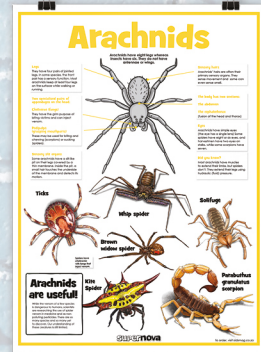
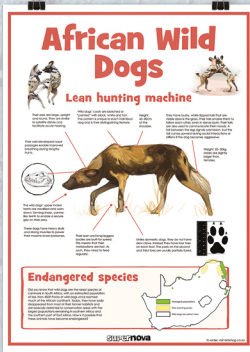
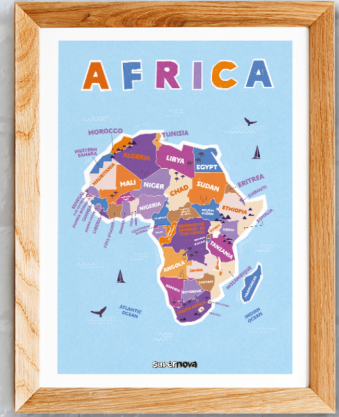
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VOL 8.2



From as little as R100, get artworks for your bedroom...



and posters for your classroom.

During dry periods some species of the tree frogs form cocoons around themselves to prevent drying out.

When reproducing, some tree frogs deposit their eggs onto leaves located above ponds, where the mothers keep them wet by urinating.

The mothers of another family of tree frogs called *Hemiphractidae* keep their eggs on their back.



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By you. For you.



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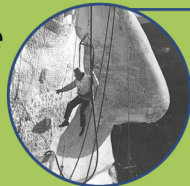
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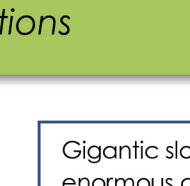
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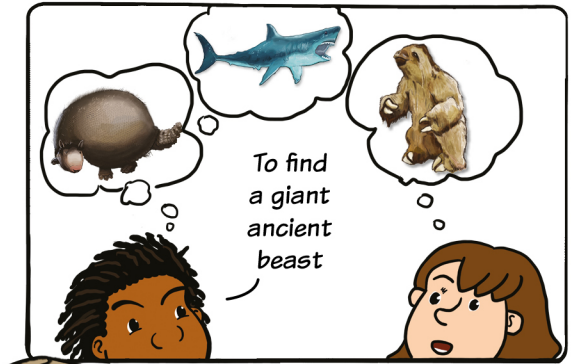
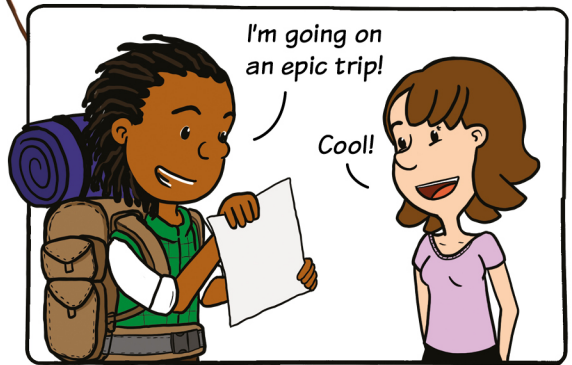
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Gigantic sloths and enormous alligators await you on p.32 (beware!). Then it's all about measuring and experimenting on p.36. Lastly, we profile some of the world's most outrageous leaders on p.40.

Enjoy this issue of *Supernova* and remember to send us your letters!

sn



To be continued.



The Orchid Bee



What in the World?



Do you
want to write for
Supernova?
Send your submissions to:
mail@kidsmag.co.za

supernova



Hi! My name is Ryan Blumenthal. I am a forensic pathologist at the University of Pretoria. I also have an interesting hobby: sleight-of-hand magic! Both my profession and my hobby use tricks, tactics and puzzle solving techniques.

Forensic Pathologist



What is your profession?

A forensic pathologist is a qualified medical doctor equipped (mentally, physically and psychologically) to examine the dead. Forensic pathologists, otherwise known as medical examiners, look for clues on the dead body, which is considered the 'crime scene'. Forensic pathologists help put criminals behind bars and help free the innocent.

There are between 60 000 and 80 000 unnatural deaths in South Africa every year, which require a full medico-legal examination, and there are only about 50 forensic pathologists in South Africa.

What do you do on a typical day?

The days are varied. I might be stuck behind a microscope, where the world seems so small. Or, I might be at the scene of a mass disaster. Most of my time is spent in a mortuary conducting autopsies.

A forensic pathologist always has to question everything! Why does this person have this sort of tattoo? Why are their teeth in this condition? What can I find under their fingernails? The questions are endless. The body is always treated with respect and dignity.

What qualifications do you need?

You need a medical degree (about seven years of study), then you need to do an internship and community service. Finally, you need to specialize as a forensic pathologist, which takes another four years! I always try keep my knowledge up-to-date through regular reading and research.

Life tip for children:

You need to have an insatiable curiosity and be mentally, physically and emotionally fit. This career can get grueling. Always keep reading. Books are an endless source of information and knowledge.



In this new section by author Vanessa Smeets, we explore writing skills and how to write in different genres. **LET YOUR IMAGINATION RUN WILD**



The Nose-picker

Since Lucy was a young girl, she held her nostrils close together. Her father claimed that nose-pickers were a terrible bunch of people. He claimed that every time someone picked their nose, their nostrils would get slightly bigger that eventually a huge double tunnel would be formed.

"No one wants to be friends with a nose-picker!" her dad yelled, as little Lucy looked at the yellow ball on her index finger that she had just dug out.

"Digging for diamonds? Hungry, my girl?" he laughed sarcastically.

"It's poisonous, you know?" he shouted, as she placed it in her mouth.

Lucy got to school in a state, with her tongue sticking out.

"Tell me if my tongue turns blue!" she told her best friend, while holding her nostrils close together.

"Lucy, are you okay? You look rather pale!" the teacher asked her.

"It's kicking in..." she said, falling to the floor.

Story to complete...

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

Send your entries to mail@kidsmag.co.za

Words by Vanessa Smeets

Illustration by Alexander Moolman

Elements it should include:

Very funny to read / watch (tears of joy)

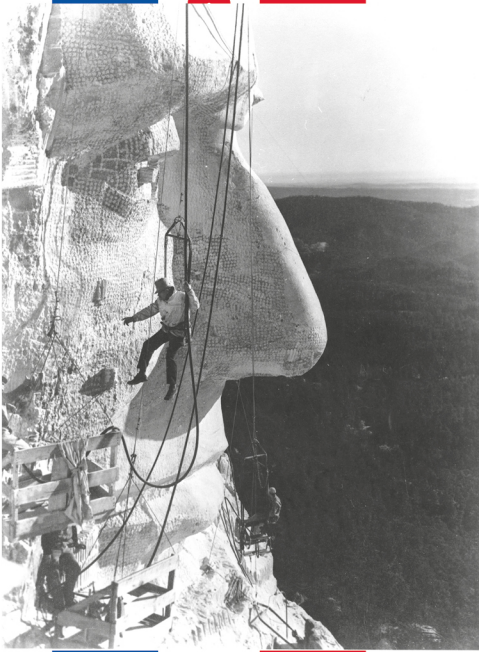
Sequence of events could be muddled up

To help:

First paragraph: What happens next? Who helps Lucy?

Second paragraph: Will Lucy realise her father's joking has gone too far? Does she decide to play a trick on him too?

Next: Promote laughter through funny characters that help the main character.



A Colossal Project

Borglum and 400 workers sculpted the 18m high carvings between 4 October 1927 and 31 October 1941. The enormous task involved dynamite and 'honeycombing'. The process is called 'honeycombing' because holes are drilled close together so that small pieces of rock may be removed by hand. About 410 000 tonnes of rock were blasted off the mountainside. After honeycombing, the faces were smoothed and made even.

The Hall of Records

Borglum planned to create a large chamber within the mountain that would hold important documents and artefacts of American democratic history. The room would be drilled into the north wall behind the faces. A 244m granite stairway would reach the room. Construction began in 1938, but Congress stopped it in 1939. They wanted the workers to focus on the faces only. But, in 1998, a repository of records was placed in the floor of the hall's entrance. Though visitors are not allowed access, the repository acts as a time capsule for future generations.

AL'S Kitchen



From Mount Rushmore to Mount Milkshake! Make this quick and easy, but delicious drink at home! All you need is a handful of ingredients and a blender.

Ingredients



3 big scoops of ice cream

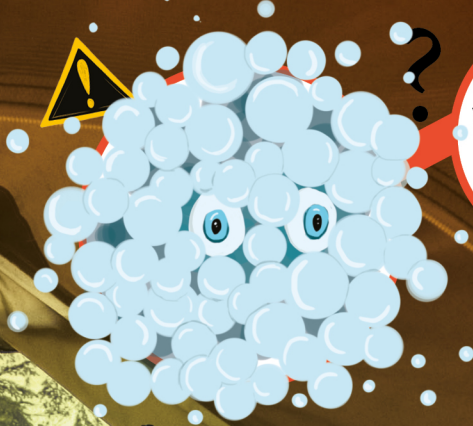
½ cup milk

2 heaped tablespoons flavoured milk powder

Sprinkles (optional)

1. Place all the ingredients in a blender and mix well.
2. Pour the milkshake into tall glasses and garnish with your choice of sprinkles.





DON'T

wash your dishes or yourself with soap in rivers.

Other animals, organisms, and people use the same river that you do, and you will poison them with a harsh chemical soap.

DO Look for a biodegradable soap at camping and outdoor equipment stores. EarthSap is one brand that sells biodegradable shampoo and soaps!



DON'T

relieve yourself too close to the river or water source.

Faecal matter and human waste in a source of drinking water will poison people and animals.

DO Follow the hiking trails whenever possible and keep to the map. Find out where the usual camp stop is and head there to pitch camp.



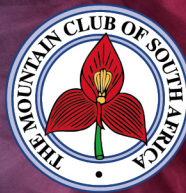
DO find a sheltered place at least 50 metres away from rivers or any source of water.



DON'T Wander off the hiking trail or camp in an area that isn't the usual camp ground. Walking and pitching tents over the local flora will damage their growth and could cause erosion in the area. You also disrupt the small animals' homes.



This list has been sponsored by the MCSA Magaliesberg Section. If you want to learn more about camping, or simply find a group of kids to go camping with, contact them for more information about joining the club!



What other ways can you think of to minimise your impact when going hiking or camping? Send them to us at:

mail@bkpublishing.co.za

The buildings may be tall,
Or the borders quite small,
The streets might be bustling,
The wind through the trees
may be hustling,
Wherever you stay,
Just remember to say,
You're never alone,
In the place you call home.

sn

The Enlightened Ones:

Taxi drivers in London have to have "The Knowledge" (knowing their way to any street address in London, without a GPS) which is passed down through generations. The Knowledge even changes the shape of their brains.

Might as well write off our holiday this year!

Sao Paulo drivers spend about 102 hours in traffic jams every year (almost four and a half days). Two of the highways in Sao Paulo have 20 lanes to accommodate a capital city where almost every adult owns a car.

Yo tower so big...

New York's Empire State building is so big that it has its own postal code: 10118.

Lucky gods!

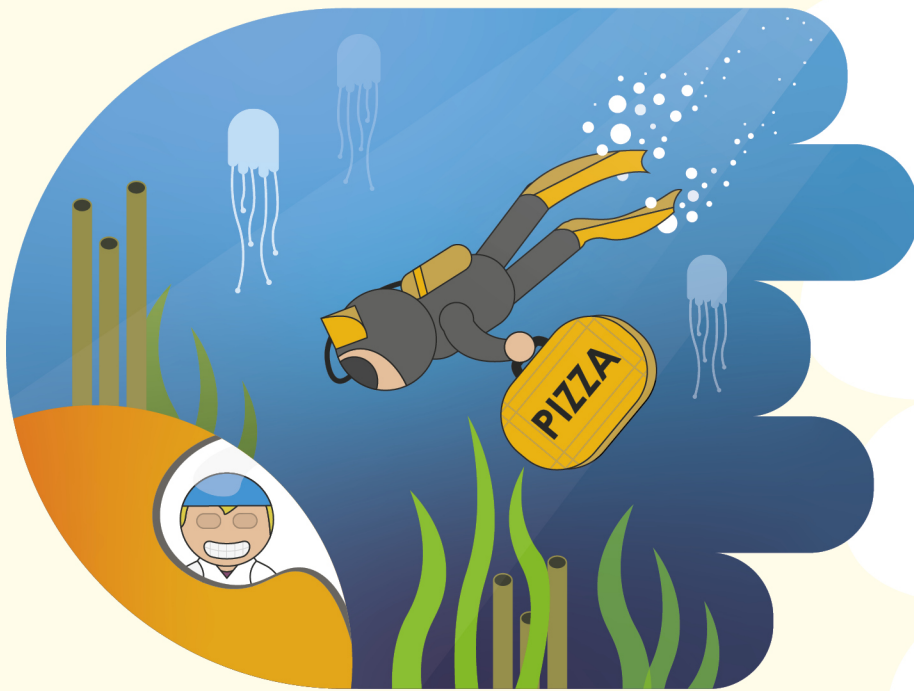
Oslo was founded by the Vikings over one thousand years ago. The name could mean "high ridge" or "the meadow of the gods".

Try saying it 20 times really fast:

Addis Ababa was named by an Empress who chose the city to be her home in the late 1800's, and the name means "New Flower" in Amharic.

THE EMPIRE
STATE
BUILDING

ELIZABETH
TOWER



Underwater Pizza Delivery Guy

If you like scuba diving and customer service, then you might be the next underwater delivery guy! In an underwater hotel in Florida (Jules Undersea Lodge), you can get pizza delivered to your room by Andy Ball. Andy also helps do maintenance and works for Jules Undersea Lodge, which used to be a Marine Research Centre. Of course, the pizza gets kept in a waterproof box until delivery through an entrance at the bottom of the hotel. If it's cold do the guests get the pizza for free?

Sky Scrapper

Although a lot of the heavy lifting when constructing buildings is done by cranes, human construction workers are still heavily involved in the process. To be able to install a new billboard or work on a building 800 metres or more above the ground, you need to have a cool head and a steady hand. Being a rock climber helps too!



What crazy position would you like to have one day?





Believe it or not, this glass sculpture can be found on the ceiling of the Bellagio Hotel in Las Vegas. It is an interpretation of Italian flowers in the Spring, and it weighs over 18 tonnes!

Glass blowing is a fascinating thing to watch, and it involves a lot of skill, training, and imagination on the part of the blower. As a glassblower, you would begin with an oven that's over a thousand degrees Celsius, where limestone, sand, potash and soda ash are melted together. Then, you would dip a blowing stick into the furnace and form a ball of glass. It's important to work quickly, using a water cloth to shape your ball of glass while blowing into the blow

pipe to give it shape and size. You would use various tools, like a pair of diamond shears (huge scissors), tweezers, and a marver (this bends the glass and looks similar to a "braai" tong) to create the shape you want. At the end, you'd put your glass piece into the annealer. This is a big machine which helps the glass to cool down slowly, without cracking or breaking.

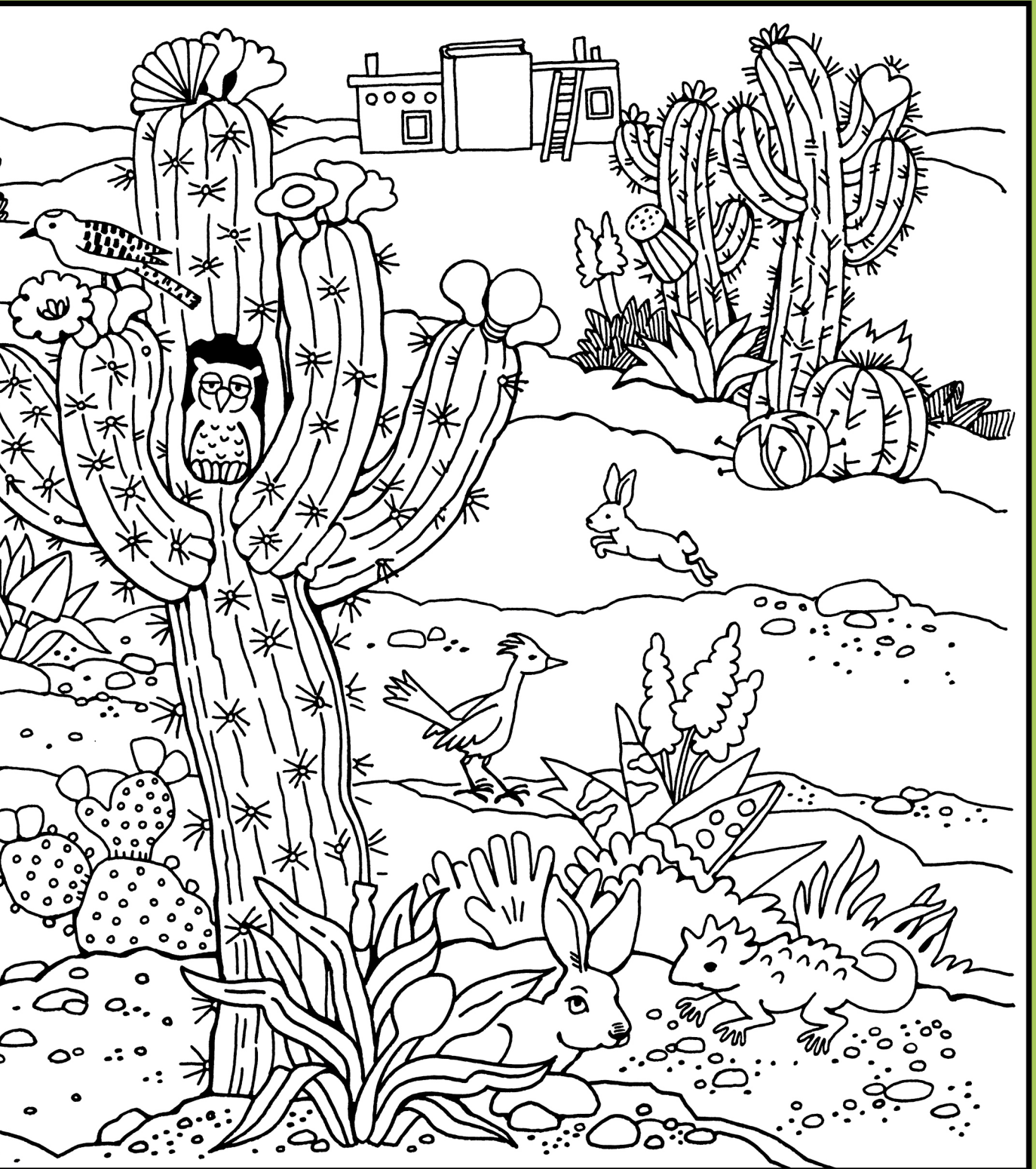


Would you ever try glass blowing as a hobby?

Desert Dwellers

Can you find all these hidden pictures?

spoon, book, strawberry, slice of pizza, wishbone, fan, artist's brush, carrot, heart, trowel, shoe, saltshaker, handbell, mitten, fried egg, spool of thread, closed umbrella, glove, pin cushion, ring, teacup, key, fish, toothbrush, jump rope, light bulb



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Solutions on page 47

supernova

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Orchids are diverse

Orchidaceae is one of the largest plant families in the world and includes more than 250 000 species. More species are still being discovered. Many species have gone extinct due to habitat loss. In South Africa, we have more than 450 species of which 45 exist nowhere else on Earth. Orchids can grow in various habitats such as wetlands, grasslands, forests, savanna and even on cliffs.



Epiphytes
(they grow on trees)

The greatest diversity of orchids occurs in the tropics. They mostly grow on trees due to the higher rainfall and humidity in these warmer, constant climates.



Terrestrial
(they grow on the ground)

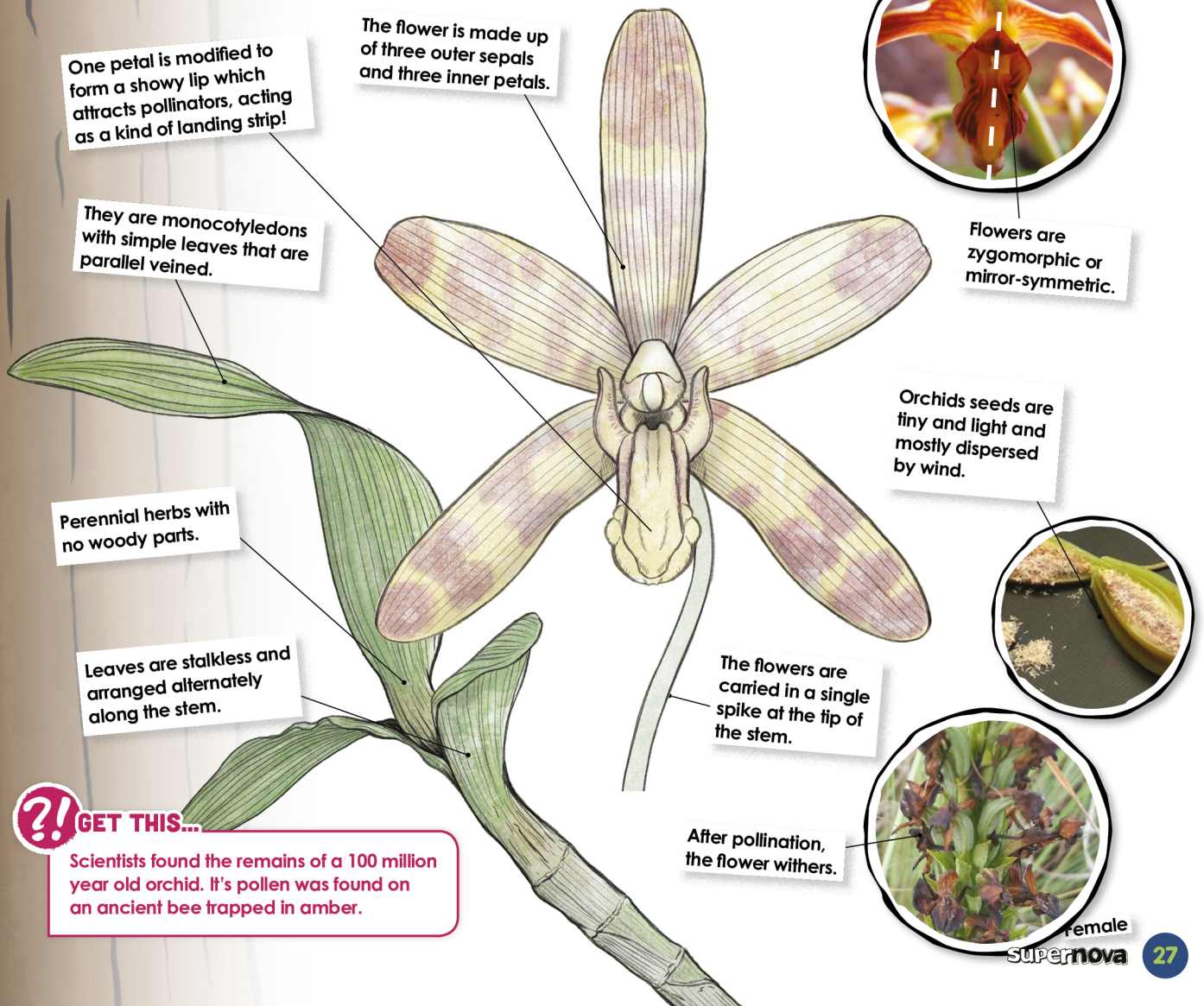
In temperate regions such as South Africa, Orchids have adapted to dryer and fluctuating temperatures by growing their tubers or rhizomes underground.



Lithophytes
(they grow on rocks)

The roots of these orchids grow into cracks in the rock surface. They get their nutrients and water from moss and decomposing plants around them.

How do you know it's an orchid?



One petal is modified to form a showy lip which attracts pollinators, acting as a kind of landing strip!

The flower is made up of three outer sepals and three inner petals.



Flowers are zygomorphic or mirror-symmetric.

They are monocotyledons with simple leaves that are parallel veined.

Orchids seeds are tiny and light and mostly dispersed by wind.

Perennial herbs with no woody parts.



Leaves are stalkless and arranged alternately along the stem.

The flowers are carried in a single spike at the tip of the stem.

?! GET THIS...

Scientists found the remains of a 100 million year old orchid. It's pollen was found on an ancient bee trapped in amber.

After pollination, the flower withers.

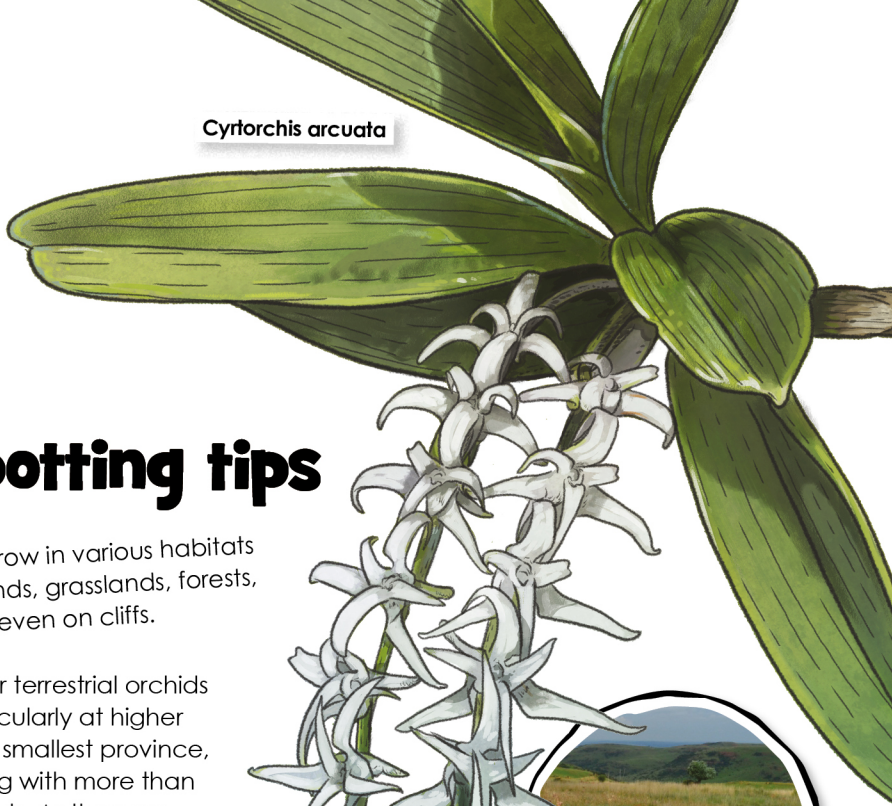




Albertina Sisulu Orchid
Brachychorythis conica
subsp. *transvaalensis*



Cyrtorchis arcuata



Orchid spotting tips

- Orchids can grow in various habitats such as wetlands, grasslands, forests, savanna and even on cliffs.
- Keep a look-out for terrestrial orchids in grasslands, particularly at higher altitudes. Even our smallest province, Gauteng, can brag with more than 50 species of orchids. As they are dormant in the dry winters, start spotting early in summer.
- The Cape Floristic Region in the wintery, wet Western Cape is home to 240 orchid species! There you will spot them in winter!
- Species diversity seems to increase with altitude. High-lying wetland areas are a great place to search.
- In misty mountain forests, and forests along kloofs and rivers, look up! Spot aerial roots on branches or tree hollows. Also, look down as some terrestrial orchids are rooted in the leaf litter.



Cape mountains



Gauteng grassland



Indigenous forest



Spider Orchid
Bartholina burmanniana

- Orchids also grow in the bushveld and drier areas, so keep your eyes peeled.

Leaves and flowers of most terrestrial species in temperate regions die back in the dry season.



We keep on buying things to decorate our houses. These things put pressure on the natural resources of our planet and eventually always end up in a landfill. Supernova kids know how to reduce, reuse and recycle.

Joyful Jam Jar

These little jars are versatile and environmentally friendly - use old jam and pickles jars and some scrap paper, paints, or markers to create floral masterpieces that make great gifts or decorations.

Recycled jars blossoming with potential

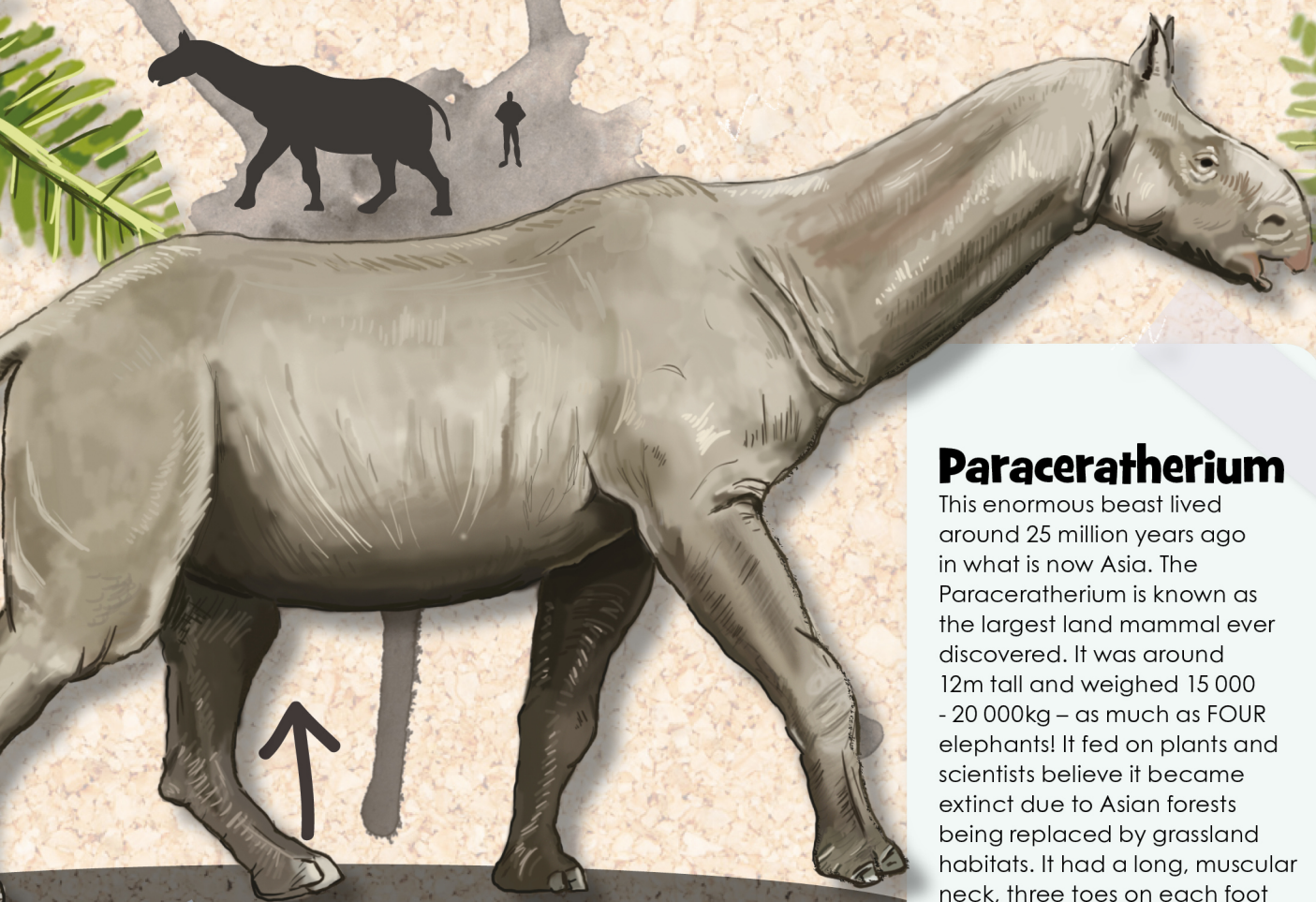


?! GET THIS...

It is illegal to pick wildflowers, so you should only pick flowers from your garden.

Make sure to add some water to your jar to ensure your flowers stay bright and healthier for longer.

These jars not only make thoughtful gifts when decorated with a special message, but they can also be used to brighten up your garden with tea light candles or can even be filled with shells or dried flower petals and placed in your bathroom



**This creature weighed
as much as four elephants!**

Paraceratherium

This enormous beast lived around 25 million years ago in what is now Asia. The Paraceratherium is known as the largest land mammal ever discovered. It was around 12m tall and weighed 15 000 - 20 000kg – as much as FOUR elephants! It fed on plants and scientists believe it became extinct due to Asian forests being replaced by grassland habitats. It had a long, muscular neck, three toes on each foot and a head similar to that of a hornless rhino.

Megalodon

The Megalodon is probably the scariest animal on this list – it grew up to 16m in length and was three times longer than the largest recorded Great White shark. It loved to snack on whales, dolphins, and giant sea turtles. The Megalodon lived in warm waters and its teeth have been found on every continent except Antarctica. The cooling of the planet resulted in loss of its habitat and its prey (adapting to cooler water), and led to its extinction around 2.6 million years ago.



**Probably the scariest
animal on this list!**



The Argentavis is the largest flying bird that's ever been discovered.

Argentavis

Found in Argentina (as the name suggests) around 6 million years ago, weighing up to 70kg with a wingspan of 7m (as long as a small aeroplane), the Argentavis is the largest flying bird ever discovered. It was twice the size of the largest bird in the world today. Flying would have been really difficult for this creature because it would have struggled to lift its massive body into the air. Scientists think the Argentavis would have lived in mountains where it would have been easier to launch itself off a cliff and glide. These gigantic birds are believed to have been carnivores.

Glyptodons relied on their thick shell of armour for defence.

Glyptodon

This giant armoured mammals became extinct around 11,000 years ago. At 3m in length and weighing 1 tonne (1000kg), the Glyptodon was similar to a VW Beetle in size and looked a lot like a modern-day armadillo. It lived in the swamp areas of North and South America. Although it had a shell like that of a turtle, it also had a furry underbelly.

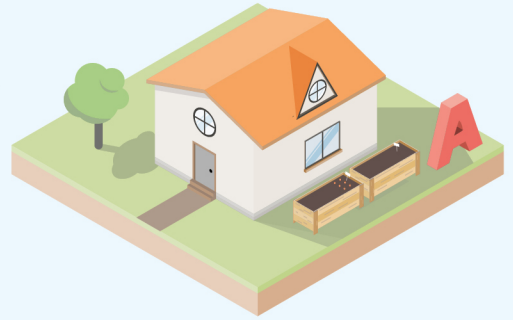
Imagine being able to ride on the back of a Glyptodon, being able to fly on the back of an Argentavis over open seas, or being able to bask in the admirable enormity of a Megalodon. Although it might be sad to think that we will never be able to admire these amazing creatures in real life, knowing about their extinction helps us realise our responsibility to protect the remaining megafauna on our planet.

There are four basic steps to the Scientific Method.

1

Observe

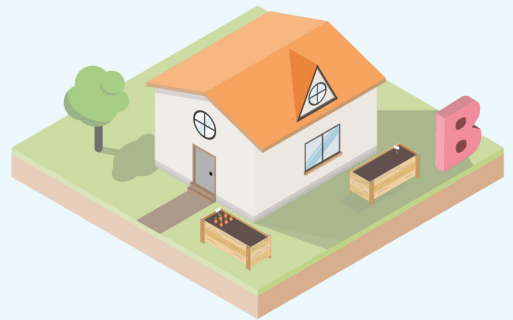
First, make an **observation**. Like "My plants aren't growing on the shady side of the garden!" Maybe, you do a little research. You read the seed packet, Google 'sunshine and growing seeds' and talk to your friends and teachers.



2

Explain

Once you have made your observation, you are ready to form a **'hypothesis'**. That's just a fancy word which means 'an explanation'. Your hypothesis might be, "My slow-growing plants need more sunlight." The amount of sunlight your plants are getting is called a **variable**.



3

Test

Now you are ready for step three. You design a **test**. Perhaps you move half of the slow-growing plants to the sunny side of the garden, and measure the progress of all three groups of plants. (The original plants in the sunny spot, the slow plants you moved to the sunny spot and the slow plants you left in the shade.)



4

Compare

In step four you will **compare** your findings to see if your test results agree with your hypothesis. In other words, did the slow-growing plants begin to grow faster after you moved them? Perhaps the results were not as you were expected, and you ask, "Why?"

Was your hypothesis incorrect? Maybe the plants were growing slowly for some other reason? Was it water? Or fertilizer? Or animals? Now you can repeat your experiment with a different variable.





thick paper



scissors

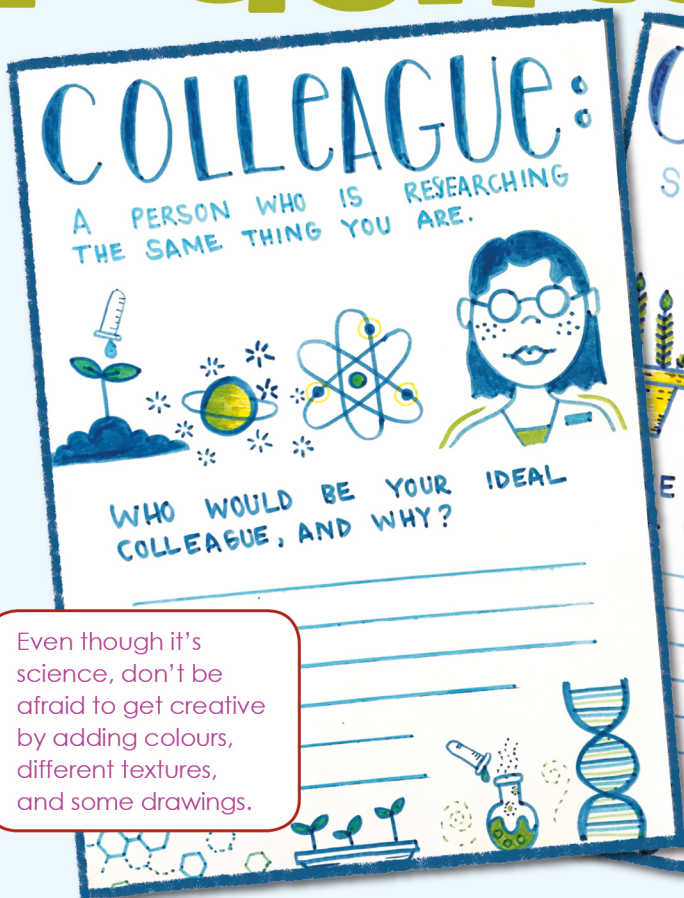


coloured pencils

Research

Put the scientific method to practice! Work with a colleague to create some original research flashcards for an experiment of your design. Try making a flashcard for each step of the scientific method.

Flashcards



Even though it's science, don't be afraid to get creative by adding colours, different textures, and some drawings.

Make more flashcards with these words:

Hypothesis:
your best explanation about why what you have noticed happening, is happening

Research:
you search for facts about what you have noticed and what other people have noticed

Measurement:
a way to examine the changes during your test

Control:
the part of your test that you don't change

Variables:
things that can change what you have noticed and affect your explanation

Analysis:
a comparison of your measured results to what you expected or to your control

Saparmurat Niyazov

Niyazov was the President of Turkmenistan from 1990 until his death in 2006. Niyazov named landmarks, streets and other public things after himself: Turkembashi which means 'leader of all Turkmen'. A meteorite that landed in the country was also named after him. It was legally required that Niyazov's face had to appear on every clock and watch in the country.

He made some very weird demands while he was President. He changed both the name for the month of April and the word for 'bread' to his mother's name. He also decided that January would be named after him. Niyazov wanted to change many aspects about Turkmenian culture and did this by banning make-up, dogs, car radios, gold teeth and lip-syncing at concerts. If you think these are random, he also forbade young men to grow long hair and beards. The country's youth were encouraged to chew on bones to preserve their teeth instead of seeking dental treatment. He also closed rural libraries to discourage reading. Woah!

One of his weirdest actions was in 2004 when he built a huge ice castle just outside the capital of Turkmenistan. Bearing in mind this country is made up of desert and temperatures can reach about 50C.



Mobutu Sese Seko

Mobutu was the President of Zaire (which is now the Democratic Republic of the Congo). He was a very cruel and harsh dictator. He also made some very questionable demands as president. Mobutu made it law that television in Zaire could not mention anybody but him by name and ordered that all evening news begin with a scene of him descending from the heavens. He loved to wear leopard print hats and banned them all from the country so he would be the only person who could wear one.

Mobutu also imprisoned people who did not have African names and changed his own name to mean "The all-powerful warrior who, because of his endurance and inflexible will to win, goes from conquest to conquest, leaving fire in his wake". Imagine having to write that name at the top of your homework every day!

He also paid Muhammad Ali and George Foreman \$5 million each to fight in a boxing match in Zaire. This was supposed to help improve Mobutu's popularity among his people and worldwide but nothing could have changed people's attitudes to this crazy leader and he was overthrown in 1997, dying later that year in Morocco.

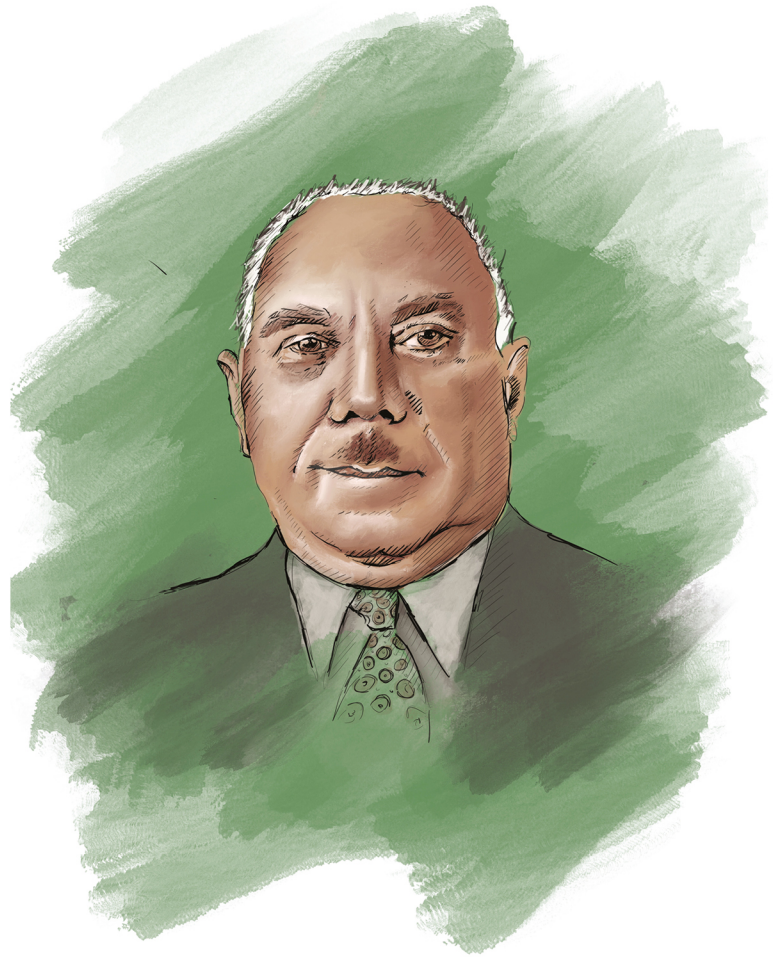


Rafael Trujillo

A military man who ruled the Dominican Republic with an iron fist, Rafael Trujillo came to power in 1930. He rigged the election and gave himself more votes than there were people voting. Something doesn't add up there...

As one of Trujillo's first acts as President, he organised a massive \$30 million event where he crowned his daughter as queen. This event lasted an entire year and used up one-third of the national budget!

Trujillo renamed the capital, roads, buildings, bridges and even mountains after himself. He required every license plate to say "Viva Trujillo". Although he forced his name to be held sacred throughout the country, the Dominicans did not like him or his wasteful habits. In 1961, a group of people ambushed him and kicked his family out of the country.



Muammar Gaddafi

Gaddafi came into power in Libya in 1969 when he was just 27. Immediately, he kicked all the Italians out of the country.

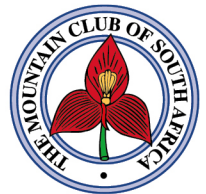
Gaddafi was notorious for his arrogance and obsession with himself. He dressed in ridiculous clothes and loved plastic surgery, also using makeup to accentuate his 'looks'. Gaddafi is famous for his terrible two-hour long speech that he made at the UN in 2009. In this speech Gaddafi said he supported Somali pirates, he called Barack Obama "my son" and he claimed that Israel was responsible for JFK's assassination. His most ridiculous demand was when he asked for the UN be moved to Libya so he and his officials could avoid jetlag. Crazy! In 2011, the government was overthrown and Gaddafi was removed by military.





BASIC GEAR YOU'LL NEED:

- | | |
|------------------------------|-------------------|
| ▲ A sleeping bag | ▲ Playing cards |
| ▲ A small gas stove and pots | ▲ Sun lotion |
| ▲ A rain jacket | ▲ Supernova |
| ▲ A tent | ▲ A camera |
| ▲ Closed shoes | ▲ Binoculars |
| ▲ A spork | ▲ Backpack |
| ▲ Water | ▲ A hat |
| ▲ A Pocket knife | ▲ A walking stick |
| ▲ A torch | |




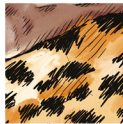





This content has been sponsored by the Mountain Club of South Africa (Magaliesberg Section). The MCSA offers mountaineering which includes climbing of all types and hiking opportunities to its members and is involved in mountain search and rescue, training, conservation of mountain areas.

mcsa.org.za

Solutions



Did you manage to find all the solutions yourself? Don't jump to this page too quickly! Rather puzzle things out with a friend or family member and then check your answers here.

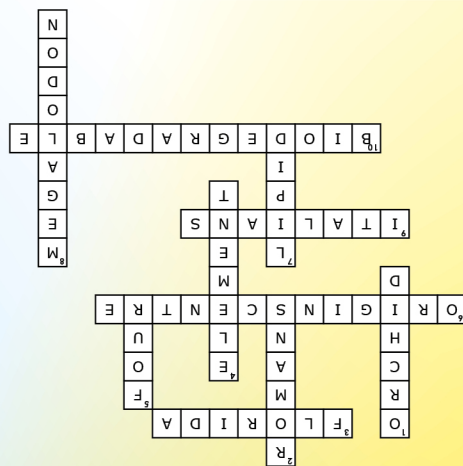
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(4)	(6)	(4)	(e)	(P)	(c)	(9)	(a)

What in the World?



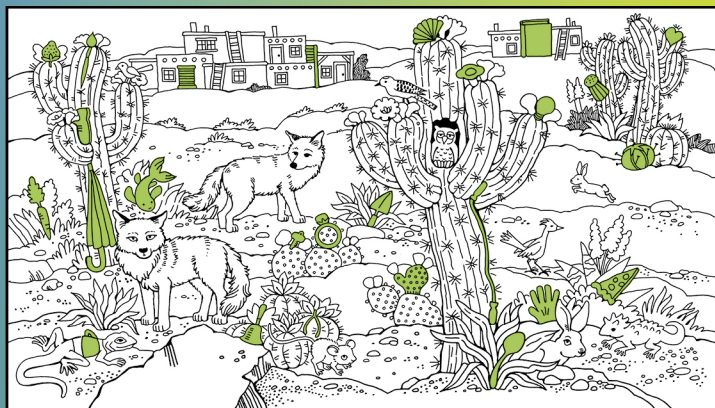
Vantablack is considered the blackest material on Earth, absorbing 99.965% of visible light, and can be created at 400 °C. It is used to prevent stray light from entering telescopes and it improves the performance of infrared cameras on Earth and in space.

Lost & Found



Crossword Puzzle

Hidden Pictures™



Competition winners:

We asked you to send us your favourite jokes. These are the 5 winning submissions:

Q: What floats across the sky going "mooooo"?

A: A flock of cows.
(From Thomas du Plessis)

Q: Why did the gum cross the road?

A: It was stuck to the chicken's foot!
(From Yusuf Sallie, Age 10)

Q: What do you call a Frenchman in sandals?

A: Phillipe Phillop
(From Jensen and Camryn Ray)

Q: What do you do with a blue whale?

A: Try to cheer it up!
(From Phoenix McMahon Age 10)

GO TO PAGE 12 FOR THIS ISSUE'S COMPETITION



Story and artwork
Rhys ap Gwyn

The back-story: Rob Ottoman is a natural genius, but he's embarrassingly shy. Rob created Oto to help him break out of his shell. While transferring his brainpower to his robot, all of Rob's hidden potential was released. So, Oto is Rob on steroids. Rob could have all of Oto's power if he'd just get over his shyness.



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