

Made
in RSA!

supernova

THE MAG FOR CURIOUS KIDS



THE BUSY LIFE OF BEES

- AND
- FLOWER POWER
 - PHASES OF THE MOON
 - THE FACTS ABOUT FRACKING IN THE KAROO
 - IRELAND, THE EMERALD ISLE

R35.00 Volume 4.5 2013



BK



LOCATION:

Antarctica – the South Pole.

MISSION:

The toughest race on the planet – an unsupported, cross-country ski race to the South Pole.

DISTANCE:

704km

TEAM:

South African extreme adventurers
BRAAM MALHERBE and PETE VAN KETS.

REASON:

To commemorate 100 years since the race to the South Pole by Robert Falcon Scott and Roald Amundsen.

MESSAGE:

"We are all in a race against time to slow down and ultimately stop climate change and global warming.

Our planet is just a dot in the universe; we are just dots on our planet; but if we each just DO ONE THING (D.O.T.) we can make a radical difference."

Braam Malherbe

The South African Mint commemorates this epic race with 1000 special 2012 R2 silver crown coins which were over-struck by Braam and Pete at the South Pole.



One lucky *Supernova* magazine reader will win one of these historic sets worth
R12 000.00

YOUR MISSION:

Visit www.samint.co.za, find 'circulation coins' and answer these questions.

1. Name all the species of indigenous animals and plants on the coins currently in circulation.*
2. How much would you get if you collect one of each South African coins currently in circulation?*

*The 5c coin was discontinued in 2012, but is still in circulation.

Send your answers via e-mail to competition@bkpublishing.co.za with your name, surname, age, school and cell number.

One winner will be chosen by lucky draw. You must be 18 years or younger to take part. Competition closes on 30 March 2013. Terms and Conditions apply (see Contents page for details).

SA MINT

South African Mint Company (Pty) Ltd



The NOVA Note

HI THERE!

I hope that the new year is treating you well so far; that your teachers are awesome and that you are having loads of fun learning new stuff!

While putting this issue of Supernova together, I was reminded how everything in the world is connected and how everything in our natural environment is so important. If even the tiniest link in the enormous circle of life went missing, there would be serious repercussions for all of us.

Take bees, for example. Without bees, pollination would decline dramatically and many plant species would die out. This would not only affect the look of our natural environment, but the food sources we have at our disposal. This would then have serious repercussions for many animals too. Do you see how important it is to look after everything we have?

What are you doing to look after the most seemingly insignificant of creatures? Remember that even the tiniest little stone in your garden may be the home of a little piece of moss that, in turn, is home to tiny, important organisms? Let me know what you are doing to take care of our precious planet! Remember, every single one of us is here for a reason and we each play a vital role in the continuation of the circle of life!

PEACE, LOVE AND TREE HUGGING!
ANDY

1st SupernovaTeam



SUPERNOVA. VOL 2.3 2013

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Talk to us

We want to hear from you! Tell us what you think of Supernova. Ask us questions and voice your opinions on the stuff that interests you.



Join Supernova magazine on Facebook for regular updates and cool facts.



Follow us on Twitter and join in on the debates.

WWW.SUPERNOVAMAGAZINE.CO.ZA

Terms and Conditions for all Supernova competitions

It is important to read through the terms and conditions before you enter a Supernova competition. If you enter a competition or lucky draw we will assume that you have read through the Terms and Conditions and that you understand and agree with them.
1. Persons entering a competition must be 19 years or older. 2. Competitions are open to anyone except the employees, for members of the immediate families of Supernova magazine or advertisers or prize sponsors. 3. The closing date specified for the competition is final and no late entries will be allowed. 4. If you win a competition you will be notified by telephone. 5. The judge's decision is final. 6. The prize will not be redeemable for cash and is non-transferable. 7. Supernova magazine is not responsible for delays or omissions. 8. Supernova magazine is not responsible for the loss or damage of a prize after it has been sent to the winner. 9. Incorrect entries will be disqualified. 10. Supernova magazine has the information power in the event of Supernova's internal database. All information will be kept confidential. 11. If the information will be used for other purposes, photographs or any original artwork by the entrant, the Image Agreement form must be filled in and signed by a parent/guardian. It will be attached to the entry form. The model is possible for Supernova to publish your artwork in the magazine. 12. All entries must include name and surname, age, date of birth and contact details.

Supernova
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The Pinboard

Send us your photos, letters and artworks to supernova@bkpublishing.co.za and we'll paste them up on the board for everyone to see!



YOUNG TALENT!

Lungelo Veezi from Durban sent in this cartoon, among many others. We think he may just have a future in cartoons... Keep up the good work, Lungelo!



SUPER KIDS WITH A CAUSE!

Carter (11) and his sister Olivia (10) are two super kids from the USA who started their own non-profit organisation in 2009 called One More Generation (OMG). One of many issues of which they want to raise awareness and educate other super kids like you through their organisation, is the plight of endangered species "so they can save them for at least One More Generation... and beyond." Carter and Olivia recently launched their Rhino Letter Writing Campaign. You'll know from *Supernova* volume 1.4, that rhinos are also very close to our hearts! They initially tried to collect over 1 000 letters from people all over the world, addressed to President Zuma, asking him to help stop rhino poaching before it's too late. They have already received over 1 600 letters and are trying to get over 2 000 before 1 April 2013! Visit: <http://onemoregeneration.org/2012/07/20/dear-president-zuma/> to see how you can get involved today! We've sent our letters, have you?



NATURAL ANOMALY WINNER

Richard wins a copy of the impressive 1.5m unfolding pocket-pop-up book, *Greedy Crawlers* for his outstanding research on the daddy-long-legs (*Pholus phalangoides*). Well done, Richard! We're glad you enjoy reading *Supernova*! Stay curious!

RICHARDS ENTRY:

Hi! My name is Richard Pretorius. I am 12 years old and I go to Heuwelands Primary School. I live in Empangeni, Kwa-Zulu Natal.

The daddy-long-legs was first recorded for science in 1775 by Swiss entomologist Johann Kaspar Fussli. It is about 9mm long and is known to shake its web violently as a defense mechanism against predators. They used to occur in sub-tropical areas, but through the help of humans they are spread all over the world. They eat other spiders, insects and woodlice. Female daddy-long-legs can lay about 20 to 30 eggs at a time. The myth that they are the most venomous spider in the world is not true because recent research shows that their venom has a rather weak effect on insects. I would also like to point out that their fangs are 2.5mm long and human skin is only 1mm thick.

Thanks for a great magazine. My sister got me a year subscription for my birthday and the first issue came today.

TALKING TO JULES

We've been having a debate at the *Supernova* office as to whether dogs can see colours or not. Instead of diving head first into the argument without any facts, I did some research first to make my side of the argument stronger. This is what I found...

Dogs can in fact see colours, but not all colours because they only have two types of photoreceptors or cones in their eyes, and not three types like we have. Photoreceptors send signals about colour to the brain. So a dog's colour vision is not as intense or as rich as ours.

Research done by Jay Neitz, Timothy Geist and Gerold H. Jacobs from the Department of Psychology at the University of California, Santa Barbara, shows that what we see as red, orange, yellow or green, may appear as different shades of yellow to a dog. Also, what a dog may see as different shades of blue-grey, are seen as blue-green, blue or violet to us. Dogs seem to perceive blue and yellow best of all the colours.



LIFE, THE AND UNIVERSE EVERYTHING

Concepts by: Claire Chantel; Art by: Andrew Bennett; Cover: Bennett; Page: Bennett; Illustrations by: Sarah Koss

Language



CLICK CLICK!



Human body

If the human eye was a digital camera, it would have 576 megapixels.



AMATEUR!

Food

Archaeologists found 2000 year old jars of honey in the tombs of Egyptian Pharaohs. They found that it was still edible, as honey is the only food that does not spoil. Bacteria cannot grow in honey because it has a low water content and relatively high acidic level. This creates a low pH (3.2-4.5) environment which bacteria does not like.

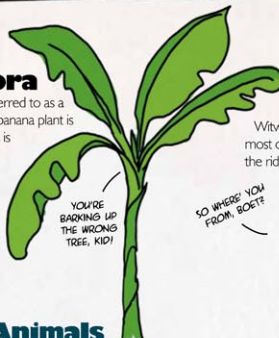


History

The Hundred Years' War between France and England did not last 100 years. The war actually lasted 116 years, between 1337 and 1453. It began with disputes about French possessions of the English kings and snowballed from there into a long war over many other political disputes.

Flora

Although often referred to as a 'banana tree', the banana plant is in fact not a tree. It is actually the largest herb in the world because the stem does not have true woody tissue like a tree.

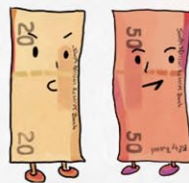


SO WHERE YOU FROM, BOET?

South Africa

Have you ever wondered why South African currency is called 'Rand'?

The Rand takes its name from the Witwatersrand. This area in Gauteng is where most of our gold deposits were found. It is also the ridge upon which Johannesburg is built.



FROM THE EAST RAND, BOH!

Animals

Cheetah cubs have a large, pale patch of hair on their backs. It is believed that their coats evolved to look like that of a honey badger because they are less likely to be attacked by large predators, like lions. Honey badgers are known to be fierce and tireless warriors that animals know better than to mess with, so no one is going to mess with a cheetah cub either!



COPYCAT!

Astronomy

Because there is no gravity in space, astronauts cannot burp because the gas cannot separate from the liquid in their stomachs.



Panama hats come from Panama.

Find out if this is fact or fiction in the next issue of **Supernova**.

FLOWER POWER

IT'S SUMMER TIME AND THE GARDENS ARE FULL OF FLOWERS, BUTTERFLIES AND BEES. AHH, SMELL THE SWEET SCENT OF THE JASMINE AND ROSES. IF YOU ARE PLANNING TO SHOW SOMEONE YOU CARE BY GIVING THEM FLOWERS, LOOK A BIT CLOSER AT THEM AND THINK: IS THERE MORE TO FLOWERS THAN MEETS THE EYE?

Do you eat flowers? I bet you do, and if not the flower, at least the fruit or seed that the flower produces. Importantly, the process of pollination must take place in order for flowers to produce food in the form of fruits and seeds. The seeds grow into new plants to produce more food, not just for us, but for animals too. This means that right there in your garden and school grounds, marvellous, mysterious things are happening with the flowers. Let us take a closer look at the typical flower parts that play a role in pollination...

FLOWER PARTS

STIGMA

This female part is adapted to trap pollen.

STAMEN

The pollen producing organ made up of the stalk and the anthers.

ANTHERS

Male part covered in pollen.

POLLEN

STYLE

Tube which carries pollen's genetic material to ovary.

PETAL

The sepals and, in particular, the petals are usually the most obvious parts of the flower and together are called the perianth. Depending on the type of plant, the petals can be almost any colour and come in a variety of shapes.

SEPAL

The stigma of the female part of the flower can also be sticky.

For pollination to occur, pollen produced by the male parts of a flower is transferred to the female parts of a flower.

OVARY

The female organ where pollen fertilises the ovules. This also becomes the fleshy part of the fruit.

OVULE

Ovules are like unfertilised eggs. Once pollen comes into contact with the ovule, it starts to become a seed.

Once pollinated, flowers produce seeds that are carried in fruits such as berries, pods and capsules (but we will learn more about fruits in another issue of *Supernova*)

So, seeds are the plant's way of having 'children', as seeds grow into baby plants that will one day flower and also make seeds.

THE nova RED LIST POLLINATION

But how does the pollen move between flowers? Therein lies the mystery of my story. Pollen cannot fly or walk. But bees and ants can! Again we see that everything is connected. Most flowers on Earth are pollinated by animals or insects. The rest use the wind or water to help with pollination. Because flowers depend on pollination for their survival, they have evolved clever ways to attract pollinators (animals and insects) or to use the wind.

But remember, the animals and insects are not trying to pollinate the plant. They visit

the flower to get food in the form of the sticky pollen or sweet nectar. The flower must produce enough nectar feed on and to ensure its survival. While feeding, the animals unintentionally rub all over themselves. When they move pollen rubs off onto this new plant's stigma and so pollination takes place. Here are some examples that will help you understand the pollination methods of the plants in your garden.

BIRD, BAT AND INSECT POLLINATION

Flowers advertise themselves to flying pollinators, with brightly coloured petals.

Sweetly scented, mostly white coloured flowers, that open at night, for example the baobab flower, evolved to attract moths and bats.

Bird pollinated flowers, for example streptozas and aloes, are usually big and bright, and provide a stable landing area for the birds.

Carrion flowers like Strepelia, give off a smell of rotting meat and so attract hordes of flies to pollinate them.



All fig trees are pollinated by wasps. Figs have a very interesting and unique flower that is inside the fruit and you can only see the hundreds of little florets if you cut open the fruit. The females of tiny wasp species can squeeze their way into a fig through a small opening near the tip of the fruit. Once inside, they lay their eggs in some of the florets, while moving pollen around between the florets and pollinating others. In turn, fig wasps can breed nowhere else but inside figs. This is a relationship that is a classic example of obligate mutualism, discussed in a previous issue of Supernova.

SOME FLOWERS HAVE RESORTED TO TRICKING THEIR POLLINATORS, WHILE SOME ARE EVEN DEADLY.

The pretty water lily (*Nymphaea odorata*) has a big flower with numerous petals. When the flower opens, the stamens do not release their pollen, but the female part of the flower covers itself with a pool of fluid. When a pollinator visits the flower, it gets lost in the petals, causing the insect to fall into the pool of fluid where it drowns. Any pollen grains stuck on the poor insect from a previous visit to a water lily, sink to the bottom of the fluid where it comes in contact with the female part of the flower, completing the pollination process. The second day, the flower produces no fluid, the stamens release pollen to visiting pollinators, which will no doubt move on to the next lily where it will get lost in the petals.



WIND POLLINATION

Wind pollination takes place when pollen is carried by the wind to other flowers. This is a bit more risky and the flower must make a lot of pollen to ensure that some of it reaches the right flower. The pollen must also be light to be able to move in even the slightest breeze. Look at a hibiscus flower, for example. The stamens extend far out to release pollen to the wind. The female stigma is also elongated to ensure that passing pollen sticks to it. Most grasses are also wind pollinated.



The Hammer Orchid from Australia is only pollinated by the Thyrid wasp. A part of the flower resembles and smells like the female wasp. However, as soon as the unsuspecting male wasp tries to carry away what he thinks is the female wasp, the flower part acts like a hammer and moves with a hinge to fling covered with pollen. The male wasp flies off, only to be tricked by another orchid, which then pollinates with the pollen from the first orchid.

WATER POLLINATION

Some aquatic plants have small, male flowers that release lots of pollen that drifts on the water where it is caught by the large, feathery stigmas of female flowers. Many varieties of seaweed are water-pollinated.

FLOWERS WE EAT

Can you now guess what flowers you eat? Mmm, I love cauliflower, broccoli and artichokes. Thanks to pollination, we also enjoy grains (seeds) such as maize, wheat and millet, and legumes such as peas and beans. Even a cup of coffee is thanks to a little pollinator pollinating the coffee plant.

DID YOU KNOW?

- Honeybees pollinate more than any other insect.
- Most food crops are pollinated by honeybees.
- In order to produce superior fruits and plants, humans can artificially pollinate plants. This is, for instance, done by taking pollen from a juicy, but sour tasting mango, and putting it on the flowers of a sweet mango. By selecting the parents, the new mango seed could potentially produce juicy and sweet mangos. This is a very interesting science called artificial selection and you will do well to read more about this. Most of the food crops we consume today have been selected for their good traits, for example, big, juicy fruits or maize with large yellow kernels.
- Those pesky, irritating mosquitoes buzzing around in summer are also pollinators of various plants, including grass species. Apart from blood (which she uses only for her eggs), mosquitoes also drink nectar.
- Before the 1800s, when bodies were embalmed, sweetly scented flowers were used at funerals to mask the smell of death.

We have seen that pollinators of plants can often be guessed, based on flower colour, fragrance and shape. Have a look at what is flowering around you and spend some time studying the birds, the bees and all the other wonderful ways that flowers have to ensure that they are pollinated and that we have enough to eat.

Reduce Reuse Recycle

by Charné Oosthuysen and Helga Odendaal



Make your own compost box

Making your own compost box might take some time and space, but it is surely worth the effort. Composting will ensure that you have a thriving, organic and healthy garden, and at the same time lessen the waste that ends up at the dump. Follow the simple steps and enjoy living a greener, more eco-friendly life.

Remember, you have the power to change the world around you. Don't wait for someone else to do it for you.

What you will need:

- Big bin or crate
- Leaves and twigs
- Green and brown materials (see below for details)
- Water
- Soil

What to do:

1. Find some space in your garden. Ideally, it should be somewhere sunny and isolated because the compost might get smelly.
2. Get a big bin or crate. The bigger the bin, the more compost you can make.
3. Your first, bottom layer should consist of leaves and twigs. This will create a solid and aerated foundation.
4. Then start adding your green and brown materials. It is also a good idea to add water and soil to your mixture.
5. Regularly shovel and turn the compost, and keep adding materials to your compost box.
6. You can add the compost to soil when you plant new flowers in your garden.



Good idea

Be sure to include enough green and brown materials. A balanced compost mixture is very important.

Bad idea

Avoid the following materials:

- Meat and fish
- Cooked food
- Coal & ash
- Cat & dog litter

Brown material, which is high in carbon, includes:

- Paper - cardboard (like cereal packets) and newspaper; but it is always best to recycle your paper properly.
- Straw and wood shavings, like those you use for your rabbit and hamster cages, are perfect.
- Wood prunings, like twigs and branches.
- Crushed egg shells.
- Natural fibres, like wool or cotton.

Green material is high in nitrogen. These materials include:

- Leaves.
- Grass cuttings.
- Raw vegetable peelings from your kitchen.
- Tea bags and leaves, also coffee grounds.
- Green weeds.
- Soft green prunings.
- Herbivore manure.



2013 Schools Competition



Hi kids,
is this not great?

Together we can keep the environment clean and win big prizes. It's simple. The more cans you school collects, the higher your chances of winning the prizes are!



Collect-a-Can has been dedicated to recycling cans and sustaining the environment for 20 years!

Let's get started!



Here are the competition details!

NATIONAL COMPETITION

All schools will compete in either Category 1 (501 learners and more) or Category 2 (500 learners and less). There is a total of R400 000 worth of prizes to be won nationally. Winners will get the opportunity to enhance their school with the prize money if they win. The prizes will be awarded at the end of the competition at our yearly school function.

Category 1 For the MOST BEVERAGE CANS COLLECTED PER SCHOOL during the whole competition

(per region)	1st	2nd	3rd	Total
Pretoria and Northwest	R25 000	R15 000	R10 000	R50 000
Amstom and Vanderbijlpark	R25 000	R15 000	R10 000	R50 000
Cape Town	R25 000	R15 000	R10 000	R50 000
Durban	R25 000	R15 000	R10 000	R50 000
Total	R100 000	R60 000	R40 000	R200 000

2 For the MOST BEVERAGE CANS COLLECTED PER LEARNER For the school

(per region)	1st	2nd	3rd	Total
Pretoria and Northwest	R25 000	R15 000	R10 000	R50 000
Amstom and Vanderbijlpark	R25 000	R15 000	R10 000	R50 000
Cape Town	R25 000	R15 000	R10 000	R50 000
Durban	R25 000	R15 000	R10 000	R50 000
Total	R100 000	R60 000	R40 000	R200 000

Please note: Apart from the above-mentioned prizes, schools are paid for the cans collected.

THE BRANCH COMPETITION

There is a total of R3500-4000 per annum to be won in monthly prizes! For these prizes, schools will also compete in Category 1 and Category 2 as per the national competition. Monthly test prizes per branch will be awarded at the end of the competition (at the prize giving function). 2nd and 3rd prizes will be awarded at the end of each month.

	1st	2nd	3rd	Total
Category 1	R1 400	R1 200	R1 000	R3 600
Category 2	R1 400	R1 200	R1 000	R3 600
Total	R2 800	R2 400	R2 000	R7 200

Come on kids ... let's get it to your nearest branch!

Johannesburg	Pretoria	Vanderbijlpark	Cape Town	Durban
20 Corner Hill 402 Kudu Ave. Johannesburg PO Box 4024 Johannesburg Tel: 011 461 3623 Fax: 011 461 3623	402 Kudu Ave. Johannesburg PO Box 1070 Johannesburg Tel: 011 461 3623 Fax: 011 461 3623	PO Box 1070 Johannesburg Tel: 011 461 3623 Fax: 011 461 3623	114 Corner Hill Kingsley Tel: 021 551 1010 Fax: 021 551 1010	11 Westwood Road Durban Tel: 031 181 1811 Fax: 031 181 1811

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See the website
for competition rules:
www.collectacan.co.za

Busy bees

Words by Carina Vermooten,
Illustrations by Ryan Canham



The honeybee has been around for millions of years. They appear to originally come from Asia, but have since spread all over the world. With their characteristic yellow and black striped bodies, bees are one of the most easily recognisable insects. If you go outside during the hot summer months, you are very likely to spot some bees working away in your garden. Read on to find out more about our six legged friends!

It's a bug's life

Bees have a very organised way of life within their hives and all the bees have different roles that they play throughout their short, but very productive lifetime. The roles can either be nurses, guards, royal attendants (to the queen bee) or construction workers.



Queen bee



The queen bee 

The most important bee in the hive is the queen bee. You can say that she is 'the bee's knees'. There is only one queen per hive and all the other bees serve her. The queen lives for about three to five years and when she dies, the other bees will choose another queen.

They choose a larva and will continue to feed it royal jelly to make sure that it grows bigger and fatter than the others. It takes 16 days for a queen bee to emerge after hatching. The queen then lays about 2000 eggs per day.




Drones 

Male bees are called drones. The main purpose of the drones is to mate with the queen bee. There are about 300 to 3000 drones in a hive and they die after mating. The drones are also not dangerous to humans because they don't have a stinger.

During the winter months, the worker bees kick the drones out of the hive.

Fertilised eggs are female and unfertilised eggs are male.

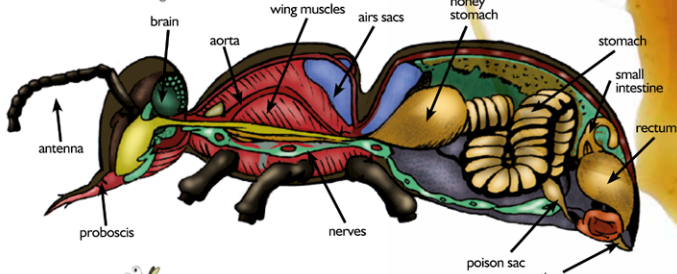


Worker bees 

Worker bees are always female and live up to six weeks if they are born during summer, and four to nine months if they are born during winter. Of the 60 000 to 80 000 bees that make up the hive, nearly all of them are worker bees who are responsible for looking for pollen and making honey. The worker bees communicate with each other by 'dancing' the directions to the flowers that have pollen. The worker bees also look after the queen bee. The bees pollinate flowers and other plants by getting pollen stuck on their hairy little feelers and legs, which then gets into the reproductive organs of plants. Worker bees take about 21 days to emerge after hatching.

Bee anatomy

The bee's body consists of three main parts, namely the head, thorax and abdomen. The bee's head has two eyes, antennae, mandibles (the bee's mouth) and proboscis (the sucker the bee uses to suck up water and nectar). The thorax consists of the forewing, hindwing and the legs, while the abdomen includes the stinger.

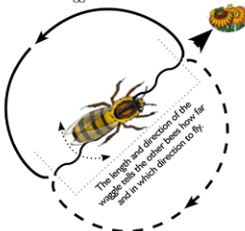


Bee GPS

Have you ever wondered why when you open a can of cold drink, there will be one bee and when you look again there will be five? That's because bees would make great GPSs. They use a special navigation system among themselves to communicate to other members in their hive where to go for pollen. Bees find sources of food (pollen) by recognising and remembering smells, patterns, symmetry and bright colours of the petals. But no single little bee can take all the pollen alone to their hive so they have to inform other

bees to come help them. The scout bee (the bee that found the food) uses two tools to help the others navigate to the food: a solar compass and an internal clock. The solar compass helps the bee remember where things are in relation to the sun. The internal clock helps the bee keep track of how far she has flown. When the bee gets to the hive, she will distribute samples of the pollen to the other bees to help them find the source. If the food is close by, the bees will be able to find it because the source bee will do a round dance,

which looks like a bunch of loops. If the food source is far away, the bee will do a waggle dance.



A honey bee can fly for up to 9km and as fast as 24km per hour. An entire hive will fly 88513km to produce half a kilo of honey.

It smells like flowers

Bees are not naturally aggressive and they tend to only follow you around if they smell something that they confuse with pollen or flowers. Since bees have 170 odour receptors, they can smell extremely well and it is easy for them to pick up underlying scents that you can't smell.



Honey making



Bees take making honey very seriously and so should we, since honey possesses many antibacterial properties. Honey was used in medieval times to treat cut wounds, an upset stomach, coughs and sore throats. Today, with all the chemicals in our foods and medicines, we don't necessarily use as much raw honey anymore, but it has been proven to be a good home remedy for cuts and wounds, bug bites, chronic skin conditions like eczema, as well as yeast infections and athlete's foot. Honey doesn't cause any allergic reactions or inflammation. The reason why honey makes such a good natural antiseptic is because it contains many nutrients and slowly releases hydrogen peroxide in small doses, which cleans and disinfects the cut and kills bacteria.

Everything bees produce, humans can somehow eat or use in other products, such as lip balm.

Photos: 1-3: © Brandi Kline, 4-8: Luc Watson / www.LucWatson.be

Bees collect pollen from flowers.



Wild bees create their hives in trees.



Bees bring the pollen back to the hive.



The beekeeper wears protective clothing.



Indigenous honey

Honey can be made from different kinds of pollen, which is why you get all kinds of different 'flavours', such as orange and blue gum. Keep your eyes open at the shops for indigenous honey. Indigenous honey is honey made from the pollen of flowers and plants that are only found in South Africa, such as fynbos.

Raw versus cooked honey

You also get raw honey and cooked honey. Raw honey is the concentrated nectar that comes directly from the beehive. It has not been treated by any chemical or heat processes. Cooked honey has been pasteurised and it is done to make the honey appear smoother in the bottles on shelves in supermarkets.

The average worker bee produces 1/12th of a teaspoon of honey in her life.



The artificial hive has removable combs.



Honey combs are spun in a centrifuge.



The beeswax is removed, exposing the honey.



The honey is sifted and then poured into jars.

Badger friendly honey

The Honey Badger Friendly Initiative was started by the South African Bee Industry Organisation and other conservation organisations to make sure that honey badgers are not harmed when beekeepers are out and about collecting honey and working with their bees. Honey badgers are endangered and many have been killed by beekeepers. Next time you go to the shop, look out for honey with a badger friendly sticker on it. If the shop does not have any of these products, ask them to stock them. All the proceeds made by selling the honey go to the Honey Badger Friendly Initiative.



Honey is the only food that does not spoil.

Buzzing facts



The most famous bee is Maya the Bee. The story was written by German author Waldemar Bonsels and was later published in 1912.



The famous composer, Nikolai Rimsky-Korsakov, wrote *Flight of the Bumblebee*.



Honeybees and bumblebees are not the same thing. Bumblebees are bigger and often hairier than honeybees.



Bees can also get sick.



THE REPUBLIC OF IRELAND

WORDS BY LAURA BARUFFA AND LAYOUT BY WILLIAM RECH



Many things spring to mind when someone mentions Ireland, like the colour green, leprechauns, friendly people and the magical country side. Why don't we take a quick trip and find out more for ourselves?

There are two countries on the island of Ireland. Northern Ireland is part of the United Kingdom of Great Britain

and uses British Pounds as currency. In 1922, Ireland (or Eire as it is known in Irish) became independent from the United Kingdom of Great Britain and is now known as the Republic of Ireland. They use the Euro as currency.

Ireland has four provinces: Connaught, Ulster, Munster and Leinster. There are 32 counties, of which the largest county is Cork and the smallest county is Louth.



THE GREAT FAMINE

In 1845, Ireland was hit by the Great Famine that lasted until 1852. The population dropped from 8 million to 2.4 million. One million Irish died due to starvation and disease, and another 1.5 million emigrated, particularly to the United States, in search of a better life.

The Great Famine is known outside of Ireland as the Irish Potato Famine. In the Irish language, it is called *Gorta Mór*, meaning 'The Great Hunger' or an

Drochshol, meaning 'The Bad Life'. This was caused by a potato disease commonly known as potato blight.

The potato was introduced to Ireland as a garden crop. By the late 17th century it had become widespread as a supplementary food. The main diet consisted of butter, milk and grain products. In the first two decades of the 18th century, the potato became widespread as a base food for the poor, especially in winter. Later on, it

became the staple food of farmers all year round.

Ireland was well known for its grazing for cattle, so landlords would use the fertile land for their animals rather than for planting crops. This forced the poor people to grow their food in the poorer soil. As potatoes are easy to grow in poor soil conditions, potatoes were the best crop for the poor people to grow and live on. This is why the potato blight had such a large impact on the country.

Photos courtesy of Tourism Ireland, Simon Kenner, Gettyimages

WHAT DO THE IRISH EAT TODAY?

The modern Irish diet is not much different to what we eat today. They do eat more fish and seafood than we do because of the high quality

shellfish from the coastline. The modern diet consists of fresh veggies, fish, oysters, mussels, shellfish and cheeses.

FAMOUS PEOPLE

Ireland seems to have an abundance of famous faces. Here are just a few:

Evannay Lynch - Actress. You'll know her as Luna Lovegood from the *Harry Potter* movies.
Colin Farrell - Actor

U2 - Rock band
Oscar Wilde - 19th century author
Richard Harris - Actor. You'll know him as Dumbledore in the first two *Harry Potter* movies.





COOL PLACES TO SEE

Dublin is the capital of Ireland. This is also the location of St. Patrick's Cathedral. This famous church has more than 300 000 visitors a year.

The Cliffs of Moher in County Clare are a favourite tourist destination.

These cliffs rise more than 214m at the highest point.

The Blarney Stone is located at Blarney Castle near Cork. It is said that kissing the Blarney Stone brings good luck!



FAMOUS IRISH INVENTIONS

You might have heard the Irish invention jokes about the underwater hairdryer, the inflatable dart board etc. The truth is some great inventions have come from Ireland.

Guinness is the world's most famous beer. This is also Ireland's most famous export. Arthur Guinness began brewing Guinness in Leixlip, County Kildare, before transferring to St. James' Gate Brewery. In 1759,

he signed a 9000 year lease at £45 per year. That's how confident he was in his product.

Colour photography was invented by John Joly. In 1894, this Irish genius from Bracknagh, County Offaly, found a successful way of producing colour photographs from a single plate. He changed the way we see the world.

It was an Irish man who accidentally

discovered a cure for leprosy while he was looking for an answer to Ireland's tuberculosis problem. Vincent Barry made this accidental and miraculous discovery, with the catchy title of compound B663. This compound would go on to cure 15 million people of this devastating disease.

These inventions and discoveries are nothing to scoff at.

SYMBOLS OF IRELAND

THE NATIONAL FLAG

The flag has three vertical bands. The green represents the old Gaelic people, the orange represents the

Protestants (under William of Orange) and the white represents the peace between them.



THE HARP (cláirseach)

Centuries ago, the Irish were some of the most magnificent harp players, sought after by nobility, kings and queens. To suppress the Irish culture, Elizabeth I of England, had many

instruments destroyed and harpists executed. These symbols of Ireland remain strong, even if the traditionally trained harpist died out long ago.



The Irish are known to be very musical. The harp is a traditional instrument. It is also the symbol of the Republic of Ireland and the logo for Guinness stout. The fiddle is also very popular, along with whistles and the flute. The *bodhrán* (pronounced 'bow-rah-n') is a type of frame drum, usually made out of goat skin stretched over a wooden frame. Also, don't forget the *uilleann* (pronounced 'illyun') pipes. They are smaller and quieter than bagpipes, and have become a favourite musical instrument since their invention in the 16th century.

THE SNAKE



You may hear a legend during your Ireland tour that says St. Patrick drove all the snakes out of Ireland. In fact, there never were snakes on the Emerald Isle. As he encouraged many pagans to become Christian, he drove away the symbolic serpents, the traditional sign for evil in Christianity.

THE SHAMROCK

The shamrock is the most famous Irish symbol. A shamrock is a three leaf clover. The shamrock represents the Holy Trinity: the Father, the Son and the Holy Spirit.

THE CELTIC CROSS

When St. Patrick converted the pagans, he wanted them to adopt the Christian cross. To help the pagans, traditional worshippers of nature,

identify with the Christian cross, he had a sun, a highly revered pagan symbol, incorporated into the cross.

ST. BRIGID'S CROSS

Taking a trip to Ireland on 1 February? That's St. Brigid's Feast Day. A contemporary of St. Patrick, St. Brigid converted her pagan chieftain father to Christianity. The crosses, woven from thrush, were created at the beginning of

spring to help protect a farmer's holding. You'll notice these symbols of Ireland in prominent places on farms, like the house and barn.



THE CLADDAGH

The claddagh is a traditional Irish ring given as a token of friendship or love, or worn as a wedding ring. The design features two hands clasping a heart, and usually surmounted by

a crown. The elements of this symbol are often said to correspond with the qualities of love (the heart), friendship (the hands) and loyalty (the crown).

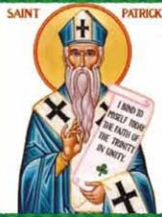


THE LEPRECHAUN

'Leprechaun' means 'sprite' or 'fairy'. The mythical creatures are traditionally

shoemakers. If you catch one, you get three wishes and a pot of gold.

There are many mythical creatures in Irish folklore. Some, like the leprechaun, are famous, but have you ever heard of a pooka? The pooka is the most feared fairy in Ireland. This is no Tinkerbell! The pooka often takes the shape of a horse. It's favourite pastime is kidnapping travellers and taking them on terrifying rides through the countryside. It is also said that a mere glimpse of a pooka can stop cows from giving milk and hens from laying eggs. Now that is a scary fairy!



SAINT PATRICK

Saint Patrick is the patron saint of Ireland. The 16th of March marks St. Patrick's Day and it is celebrated the world over by the Irish and their descendants.

Saint Patrick was born in Britain to wealthy parents. He was kidnapped at the age of 16 and brought to Ireland. His captors forced him to tend sheep in the lonely countryside of Ireland. When

Saint Patrick was 22 or 23 years old, he escaped back to Britain. Rumour has it that he escaped on a pirate ship! He was reunited with his family and he decided to become a priest.

Saint Patrick returned to Ireland to convert the people there to Christianity. He is responsible for the Celtic cross, one of the symbols of Ireland.



Illustration by Jean-Noël Laforgue

POOKINGS Some Pretty Good Ideas WRITE YOUR OWN LIMERICK

FOR EXAMPLE:

There was an old man from Peru
who dreamed he was eating a shoe
he woke in the night
with a terrible fright
and found out that it was quite true

Did you notice the rhythm to the poem? Read it out loud. The first, second and fifth lines have the same long rhythm. A bit like 'da DUM da da DUM da da DUM' (3 DUM's). The third and fourth lines have a quicker pace. It sounds more like 'da DUM da da DUM' (2 DUM's).

Have you ever heard of a limerick? A limerick is a funny poem that consists of five lines. It has a rhyming scheme of AABBA, which means the last word of the first, second and fifth lines rhyme with each other, and the last words in the third and fourth lines rhyme.

Why not try and make up your own limerick? Remember, the sillier the better!

HERE IS ONE WE MADE UP:

There was a young girl called Andy
who thought her hair was quite sandy
she turned it to red
it fell out instead
and now she's known as MANDY



Words by Audrey Whyte and illustrations by Ryan Canham

Have you ever wondered why the Moon seems to change shape? Some nights it's a beautiful, shining globe in the sky and other times we can only see a tiny slice of it. But we know that the Moon is round like the Earth and that it isn't really changing shape. We just see certain parts of it at different times. The question, though, is why?

Phases of the Moon

The Moon is a large ball made up of rock and dust. There's no atmosphere on the Moon and no flowing water, which also means there's never any wind or

rain. The Moon does not create or send out any light of its own. In fact, the reason why the Moon appears to shine is because it's actually reflecting the light from the Sun.

The Earth moves around the Sun in a path called an orbit. It takes the Earth 365 days to orbit the Sun. While the Earth is moving around the Sun, the Moon is also going

around the Earth. However, it only takes the Moon about 27 days to orbit the Earth. As the Moon moves in an anti-clockwise direction around the Earth, the Sun shines on different

parts of the Moon that are then visible from Earth. These changes in the appearance of the Moon are known as the 'phases of the Moon'.

New moon

The new moon is sometimes also called 'old moon'. During this phase, the Moon is between the Sun and the Earth. In other words, the Sun is shining on the far side of the Moon (the side we can't see). As a result, the side that's facing us is in complete darkness and we can't see the Moon. The new moon rises at dawn and sets at sunset.

Waning crescent

This is the last phase before the Moon once again becomes a new moon and completes its full orbit around the Earth. During this phase, we can only see a small slice of the Moon in a crescent shape before it will completely disappear from our view.

The cycle will now start again as the Moon goes around the Earth and once more passes through all eight phases.

Waxing crescent

The word 'waxing' means 'to grow' and the word 'crescent' refers to the shape. At this stage, the Moon has moved slightly in its orbit so it is no longer directly between the Sun and the Earth. A small slice of the Moon now appears as the sunlight reflects off the Moon.

First quarter

This is also called the 'half moon'. The Moon has now moved a quarter of the way around the Earth and that's why this phase is called the first quarter. During this phase, we can see the left half of the Moon.

Last quarter

The Moon has moved three quarters of the way around the Earth. Once again, half of the Moon is visible from Earth. However, during this phase we see the opposite side to the side we could see during the first quarter. So, the right side of the Moon is now lit up by the Sun and the left side is in darkness.

Waning gibbous

The Moon starts to get smaller or to 'wane'. We can still see three quarters of the Moon, but the section that was lit up while the Moon was in the waxing crescent phase is now in darkness.

Full moon

The biggest and brightest object in the night's sky is the full Moon. This is when we can see the full, circular shape of the Moon in all its splendour. During this phase, the Moon is on the opposite side of the Earth to when it was a new moon. So, the Earth is now between the Sun and the Moon. The full moon rises at sunset and sets at sunrise. This is the only time when you will see the Moon directly overhead in the middle of the night. The full moon takes place roughly two weeks after the new moon.

Waxing gibbous

As the Moon continues in its orbit it seems to be growing bigger. In other words, the Moon is still 'waxing' during this phase. The word 'gibbous' means 'bulging' or 'hunchbacked'. We can now see three quarters of the Moon.

Interesting facts about the Moon

During the day the Moon is very hot (over 100°C) and at night-time the Moon is freezing cold (below -100°C).

A blue moon is when there is a second full moon within one month. This happens roughly every three years.

Our calendar, with 365 days, is based on how long it takes the Earth to orbit the Sun. A lunar calendar is based on the phases of the Moon and has 354 days. Lunar calendars are used by the Chinese, Muslims and Jews.

The Moon rises in the East and sets in the West.

The Moon looks different in the Northern and Southern Hemispheres because we are looking at it from different angles. From South Africa, the Moon seems to grow from the left to the right, but if you were to go to America or England, it would look like it's growing from the right to the left.

The Moon appears much brighter than the stars because it is much closer to the Earth than the stars are.

We only ever see one side of the Moon from Earth. This side is called the 'near side'. The side that we never see is called the 'far side', but it is also sometimes referred to as the 'darkside' of the Moon. You may think this would mean that the far side of the Moon is constantly in darkness, but that's not true. Both sides of the Moon get darkness and light.

Inklings

Some Pretty Good Ideas

MAKE A MOON MODEL

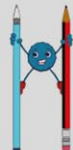
Try this cool activity when it gets dark

What you will need:

An old tennis ball.



A pen and a pencil.



A lamp or a torch.



A friend or family member to help you.



1

Pretend the ball is the Moon. The lamp or the torch is the Sun and your head is the Earth. (If you are using a torch, make sure you get someone to hold the torch up in a fixed position.)

2

Stick the pencil into the ball and make a mark using a pen on one side of the ball. Now hold the ball up slightly raised in front of you using the pencil so that the mark is facing you.

3

Place the ball directly between yourself and the light. The side facing you will be in shadow. This represents the 'new moon' phase. Slowly turn around in a circle with the ball and see if you can identify the other phases of the Moon.

4

Get your friend to help you and also swap places, so you can watch the ball as your friend moves it. Notice how the side of the ball with the mark on it always faces you. As you turn in a circle, the ball is also slowly moving around its axis. The Moon makes one complete rotation in the time it takes to orbit the Earth, which is why we never see the other side of the Moon.

TO FRACK OR NOT TO FRACK?

Words by Charlotte Keuris Illustrations by Waldo Swart

Over the last few years, you've probably heard the word 'fracking' on TV, on the radio or read it in the newspaper. But what exactly is fracking and why is everyone talking about it? *Supernova* investigates to bring you the facts about fracking in the Karoo.

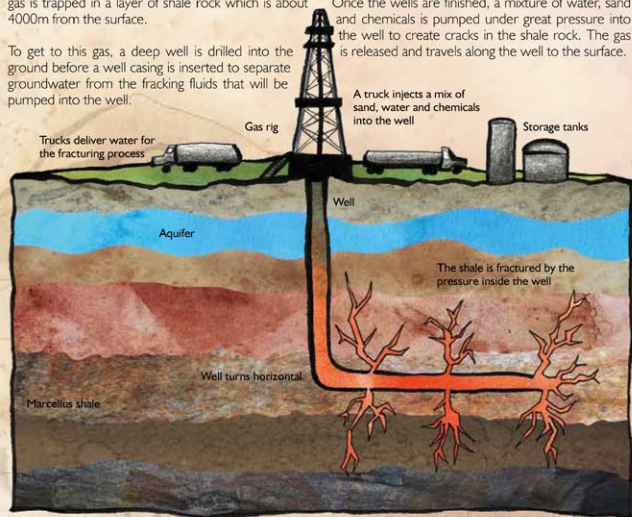
What is Fracking?

In the Karoo there are large pockets of shale gas (a type of fossil fuel) trapped deep under the ground. This gas can be used as a source of energy, and fracking is the process of extracting this gas from the ground. The gas is trapped in a layer of shale rock which is about 4000m from the surface.

To get to this gas, a deep well is drilled into the ground before a well casing is inserted to separate groundwater from the fracking fluids that will be pumped into the well.

After finishing the vertical part of the well, the drill turns and drills horizontally for another few kilometers, forming an 'L' shape under the ground.

Once the wells are finished, a mixture of water, sand and chemicals is pumped under great pressure into the well to create cracks in the shale rock. The gas is released and travels along the well to the surface.



TO FRACK

South Africa needs to move away from its dependency on coal for power. Shale gas is considered a 'bridging-fuel' that can help the country have a less carbon-intensive economy.

Fracking is considered to be a way of meeting carbon reduction goals because gas generates 50% less emissions than coal when burned, and 30% fewer emissions than oil.

It is estimated that South Africa has the fifth-largest shale gas reserves in the world.

Approximately 90% of the energy for South Africa currently comes from coal and the demand for energy is growing at a very fast pace. Shale gas could provide another source of energy.

Fracking could become a brand-new industry for South Africa that would provide energy and economic benefits to the country.

There is believed to be 250 years worth of shale gas in the Karoo.

Once fracking is operational in South Africa, it could add R80 billion to the economy annually and could also create 300 000 jobs.

OR NOT

The well casings sometimes crack and then fracking fluid leaks and pollutes groundwater.

South Africa is a water scarce country and because fracking uses a large amount of water, there are worries that fracking will cause water shortages.

There is already a problem with acid mine drainage so it is a concern that government can't contain or treat polluted water, which could occur because of fracking.

The main ingredient of shale gas is methane gas. Methane is a much more powerful greenhouse gas than CO₂ and, during fracking, some of the gas escapes and contributes to global warming.

Fracking is banned, under moratorium, or restriction in more than 150 towns, cities, provinces and whole countries like France and Bulgaria.

In the US, man-made earthquakes caused by fracking have been recorded. While most of these were relatively small, such earthquakes can crack well casings, leading to soil and water pollution.

In America, land that has been fracked or contaminated by fracking drops dramatically in value because nobody wants to buy it. This may be because fracking affects health, changes landscapes, and causes noise, traffic, groundwater contamination and methane gas seeps.

The Facts

Tap water contaminated by the chemicals used in fracking can be set alight.

The proposed areas for fracking in South Africa are a massive 20-40% of the country.

Some of the chemicals used in the fracking process could cause cancer.

Almost all the Karoo towns and a total 75% of South Africa depend on groundwater that would be at risk of pollution from fracking.

Currently, 98% of water in South Africa is allocated and by 2030 it would be -17%. This means that without even taking fracking into account, South Africa will have water shortages in the future.

Over time, fracking fluids left in the ground move upwards and contaminate shallow groundwater or surface water.

20 million litres of water is used per fracking per well. The total area that could be fracked is bigger than the whole of Mpumalanga and the Eastern Cape combined.

Government has granted three foreign-owned companies permission to explore: Royal Dutch Shell, Falcon Oil & Gas from America, and Sunset Energy (also called Bundu) from Australia.

Shell has estimated that they will be exploring for nine years and most jobs will only be created after this time.

I WANNA BE

a beekeeper

Words by Julia Hopkirk

THIS IS WHERE
WE PROFILE
EXCITING, OFF-
BEAT CAREER
OPTIONS!



Photographs: Jay de Luca, Mohammed Bosa & USMC

Do you want to be a buzzing beekeeper, owning your own beekeeping business either as a commercial farmer or as a hobbyist? Then beekeeping is definitely for you. So start buzzing!

Definition of a beekeeper

A beekeeper (honey farmer or apiarist) farms with honeybees that are kept in an apiary, where honey, beeswax, pollen and royal jelly are produced.

What is beekeeping?

Beekeeping is the process where a beekeeper cares, raises and manages honeybees for personal, commercial and/or agricultural purposes. The honeybees are kept in hives, boxes, or containers which are normally a clean, dark, sheltered environment to and from which the bees can swarm freely. Honeybees are kept on farms, in forests and deserts, and commercial beekeepers can control hundreds and thousands of bee colonies at a time.

What does a beekeeper do?

Beekeepers provide pollination services to fruit and vegetable farmers by raising honeybees and queen bees for these farmers. Pollination services are used

for fruits and vegetables, such as apples, cherries, blueberries, melons, almonds and squash. The beekeeper places the beehives between the crops to maximise the level of production through pollination. Pollination is the process where pollen is transferred from the anther of a plant to the stigma of a plant.

Beekeepers also produce and sell farm products, such as honey and honeycombs, which are either sold on the farm, in retail outlets or through commercial packers and distributors.

Commodities, such as beeswax, pollen, royal jelly and propolis, are also sold on small scale or commercially. Royal jelly is a high-nutrition food supplement that is fed to queen honeybees, and a good source of income for the farmer.

What do I need to become a beekeeper?

Anybody can become a beekeeper, especially someone who is vigilant and patient. Beekeeping is a very important skill and industry for agriculture, and for overall food production. You will need extensive training, protective gear, and the necessary equipment before you start practising the skill of beekeeping.

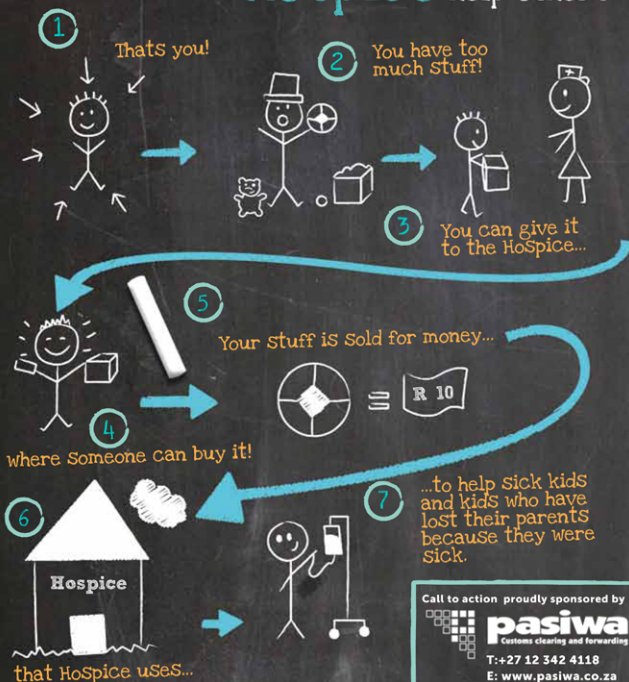
Look for a local beekeeping club in your

area which offers training services for beginners. Most importantly, speak to a trained beekeeper about beekeeping and his/her experience as a beekeeper. The majority of beekeeping clubs with training facilities have beehives in the area that are used for training purposes. Once you've trained and have become an experienced beekeeper, try and get an apprenticeship with a skilled beekeeper or at a commercial honey farm to get the opportunity to learn from the best in the industry.

Visit the Southern Beekeeping Association's website at beekeepers.co.za for more information about beekeeping.

Honey production in Kenya is a fast-growing industry. Have a look at the following [youtube.com/watch?v=9ILUw7HVO0](https://www.youtube.com/watch?v=9ILUw7HVO0) for a glimpse into the world of beekeeping and honey production in Kenya.

How you can help Hospice help others:



**HOSPICE PALLIATIVE CARE
ASSOCIATION OF SOUTH AFRICA**
Head Office:
P O Box 38785, Howard Place, 7450
Suite 11a, Lonsdale Building
Lonsdale Way
Pinelands, 7430

Call to action proudly sponsored by
pasiwa
Customs clearing and forwarding
T: +27 12 342 4118
E: www.pasiwa.co.za

Jenny Mills Tel: +27 +21 531-0277
Fax: +27 +21 531-7917
Sally Singh Tel: +27 +21 531-0277
Fax: +27 +21 531-1706
Email: info@hpcsa.co.za
Website: hospicepalliativecare.co.za

The Chatroom



SUPERNOVA'S GUIDE TO THE COOLEST PARTY EVER!

WORDS BY MELA OENAGAL AND CHAREN OOSTHUYSEN
ILLUSTRATION BY YOUNG PARK



COOL INVITATIONS

Bright colours, and a big and easy to read font will attract attention. When making an invitation, it is important to have certain information on your invite: the date when the party will be, the time the party will start and approximately when it will end, and the place the party will be held.

MUSIC

Make sure to play some of your favourite music. It will create the perfect atmosphere for your party!

HOW TO START A CONVERSATION

When you meet a new friend, one of the easiest ways to start a conversation is to compliment that person. Being friendly with everybody will help the conversation along. Simple questions are also good conversation starters.

A birthday party should be fun and it usually involves you getting lots and lots of presents. But sometimes the stress of hosting a party might get you down and keep you from having a good time. This year, you do not have to worry about a thing. *Supernova* will guide you all the way!



THEMED PARTIES

It's always fun to have a theme because it makes your party memorable and it is really fun to dress up! Themes like Pirates, Cowboys and Crooks, Animals, Disney, Harry Potter, Narnia, Alice in Wonderland, a letter party, my fear, and Arabian Nights are just to name a few! Be creative!

PHOTOGRAPHS

It is always fun to look at photos of a party you held, so make sure to take lots of photos! You can also ask your parents to help you set up a photo booth with fun props to make for awesome photos.

FOOD

Make sure there is plenty of food and cool drinks or water for your guests because all the activity will make them hungry and thirsty! Easy food, like hotdogs or hamburgers, will be fast to make. Make sure there are a variety of snacks because some of your friends might not eat specific foods or may be allergic to it.

REMEMBER TO:

- HAVE AN ADULT AT YOUR PARTY. THIS PERSON CAN HELP YOU WHEN SOMETHING GOES WRONG, OR PREVENT BAD SITUATIONS FROM THE START.
- MAKE SURE EVERYONE IS HAPPY, EVEN YOUR PETS. IT MIGHT BE A GOOD IDEA TO SEPARATE YOUR GUESTS AND PETS, SOME FRIENDS DON'T KNOW HOW TO HANDLE PETS AND VICE VERSA.
- PUT AWAY ALL YOUR VALUABLE AND BREAKABLE BELONGINGS.
- TELL ALL YOUR FRIENDS TO BEHAVE AND TO STICK TO YOUR RULES.
- MOST OF ALL, HAVE LOTS OF FUN!



Live it UP!

WAKEBOARDING

A COOL SPORT FOR A HOT SUMMER

LANCUT BY NICOLE MARZKA AND BENJAMIN ANDY

If you've ever visited a dam or a lake, you may have seen boats whizzing past, towing people who are flying through the air with boards attached to their feet, and chances are your reaction was "Wow!" or "Awesome!" every time they did a high flying trick.

The sport of wakeboarding is becoming more and more popular thanks to its nature of providing fun in the sun. *Supernova* interviewed pro wakeboarder Johnny Carne to find out more about the sport and why he loves it so much...

HOW OLD ARE YOU?
24.

HOW LONG HAVE YOU BEEN WAKEBOARDING?
15 years.

WHAT IS WAKEBOARDING?
Imagine a snowboard but on water, being towed by a boat or a cable.

WHO ARE YOUR SPONSORS?
Ultrasport, O'Neill Wetsuits, and Bro! Clothing.

HOW OLD WERE YOU WHEN YOU STARTED WAKEBOARDING?
I think I was about eight or nine when I first got to try one out.

HOW DID YOU GET INTO IT?
My dad was a water-skier so I grew up on skis around lakes and eventually somebody turned up with a wakeboard and I had to try it!

WHAT WAS THE SCENE LIKE BACK THEN?
Tiny! There were barely any people who knew about it, let alone had tried it.

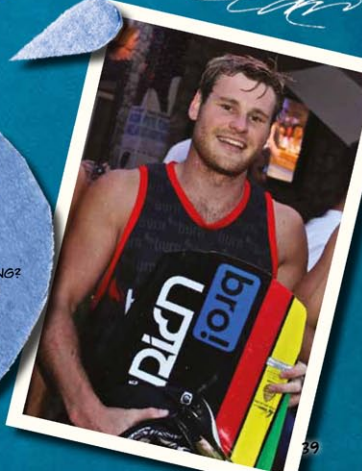
Johnny Carne

DO YOU LIKE THE SCENE NOW AND WHY?

Yes, the scene is getting bigger and bigger, and the top level guys all have a good influence on the younger riders.

WHAT DO YOU LOVE ABOUT WAKEBOARDING? YOU DIDN'T GIVE IT UP, SO THERE MUST BE SOMETHING THAT KEPT YOU FROM BECOMING A 'NORMAL' GROWN UP.

I loved it from the moment I stood up on one. There is always a new trick to learn and there is nothing better than wakeboarding with a bunch of your friends and pushing each other to get better and having a laugh.



Live it UP!

WHAT IS YOUR ROLE IN THE WAKEBOARDING SCENE?

Besides competing in wakeboarding events around the country, I get involved in judging, coaching, boat driving, commentating, demo days, and basically anything I can do to help the sport.

WHY DO YOU THINK WAKEBOARDING IS A POSITIVE OUTLET FOR KIDS?

Mostly, it's a lot of fun. You'll meet a lot of great friends. If you're a girl, the guys will think you're cool, and if you're a guy, then chicks will definitely think you're hot!

FAVOURITE TRICK?
Indy temper tantrum.

FAVOURITE TRICK YOU CAN DO?
Method crow mole.

BEST TRICK YOU CAN DO?
Heelside 900.

WHAT TRICK ARE YOU BUSY LEARNING AT THE MOMENT?
I would love to land a 1080 this year.

WHERE IS YOUR FAVOURITE PLACE TO RIDE IN SOUTH AFRICA?

Definitely the Vaal River. Some of my best times riding have been with another pro wakeboarder, Shaun Faccio, who lives alongside the river. The river is beautiful and there is always flat water to find. Other than that, I also love Kevin Dry's spot on the Umtamvuna River near Port Edward.

WHAT OTHER BOARD SPORTS DO YOU DO?
I snowboard, skateboard and surf - anything standing sideways really.

WHAT ADVICE CAN YOU GIVE KIDS WANTING TO START WAKEBOARDING, AND WHAT'S THE BEST WAY FOR THEM TO GET INTO IT AND LEARN, IF THEY WANT TO TAKE IT UP?

Well, I learnt behind a boat, but not everyone knows someone with a boat, so I would recommend visiting a cable park where you can learn all the basics - or make friends with a boat owner. There is a cable park in Midrand called Stoke City Wake Park, another cable in Warmbaths' Forever Resort, and Blue Rock Cable Waterski in Somerset West in Cape Town.

WHAT BOTHERS YOU ABOUT THE WORLD TODAY AND WHY?

I've been lucky to travel a lot, and I've seen some amazing places and met some incredible people. However, it seems that everywhere I've been, there are always problems of race, religion or general prejudice towards minorities.

IF YOU COULD CHANGE ONE THING TO MAKE THE WORLD A BETTER PLACE, WHAT WOULD IT BE AND WHY?

I would make people more understanding towards other beliefs and opinions.

Discover the Didgeridoo

Discover your talents

Did you know ?

- Didgeridoos are made out of wood. The types of wood that could be used to make one are blackwood, eucalyptus, stringy bark and boxwood.
- Termites are very important in the manufacturing of the didgeridoo because they eat away at the branch that will be used and they provide the hole you need to blow through.
- The mouthpiece is made out of beeswax because it is a fantastic seal.
- The name 'didgeridoo' has only been in use for about 100 years.
- The first didgeridoo was made about 2000 years ago.
- There are at least 45 different traditional names for this instrument due to the language differences between the Aboriginal tribes in Australia.

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Inklings

Some Pretty Good Ideas

What you will need:



Lemon or lemon juice.



Paper.



Paintbrush or a stick.



Sunlight or a heat source.

MAKE INVISIBLE INK WITH LEMON JUICE!

i ♥ u

WHAT TO DO:

1. Squeeze lemons to get their juice or use bottled lemon juice.
2. Use the juice as 'ink'. Apply it with a stick or paintbrush to write on paper.
3. Allow the paper to dry.
4. When you are ready to read your invisible message hold the paper up to the sunlight, a light bulb (recommended), or other heat source.
5. The heat will cause the writing to darken to a pale brown, so that your message can now be read.
6. Another way to read the message is to put salt on the drying 'ink'. After a minute, wipe the salt off and colour over the paper with a wax crayon to reveal the message.

A cotton swab makes an excellent disposable 'paintbrush'.



Be careful not to overdo your heating and set your paper alight.



Brain Games

Hidden Objects

Can you find the hidden objects in this scene?

Illustration by Marilyn Eble.



Pencil



Music note



Toothbrush



Baseball bat



Button



S.A. flag



Banana



Ruler



Boomerang



Glove



Sailboat



Crown



Sailboat



Boot



Spoon

The Run Through



Photos courtesy of December Streets.

December streets

How to become a Rock Star

Words by Charlotte Keuris

Have you ever wanted to be in a band? Be the rock star on stage that everyone sings along with? Of course you have! Luckily, the December Streets are willing to teach us a thing or two about becoming a famous musician. The Pretoria-based band came together during 2010 and has since

been making chart topping hits such as 'Fire through the Window', 'Who Needs Shoes' and 'My Name'. December Streets have also performed at big festivals such as Oppikoppi, Aardklop and Splashy Fen, and took part in the MK Avontoeer. With so much success over the last two years, the band can definitely teach up-and-coming young musicians a trick or two.

Picking a name

Before taking over the music world, you need to pick a name for your band so that all the fans have something to chant at your shows. Your name needs to be something new and interesting that your fans will remember. For the December Streets, the inspiration for their name came from a hymn written by the grandfather of Nico, the lead guitarist.

Practice makes perfect

Making music isn't just a hobby or a career for the members of the December Streets – it's a way of life. For Gideon, the band's saxophone player, music is in the same category as oxygen, water and chocolate! It is important to start playing music from a young age, so guitar or piano lessons are definitely a good idea. Otherwise, if you're lucky enough to have a friend or family member who can play an instrument get them to teach you the basics. December Streets' drums player, Corniel, got his dad to teach him the basics and then from there he taught himself how to play the drums.

After you've picked your instrument and become a pro at playing it, you need to start practicing together as a band. For the members of December Streets, practicing music is something they do all day, whether they're listening to music, playing music or singing. While the band is constantly surrounded by music, Corniel admits they do practice more when they are getting ready for a show.

Finding some fans

No matter how good the music you make is, if you can't get people to listen to it then you won't become a successful band. Most bands start by playing live shows and then once they have developed a following, radio stations and TV channels, like MK, start playing their music. When the December Streets first started, they made sure all their friends and families came to the shows wearing T-shirts with the band's name on them. The band also made sure they played as many shows as possible, gave away free music and advertised themselves on social media.



What about stage fright?

There is a big difference between practicing in your garage and playing in front of a large crowd of strangers. For some people it can be scary playing a live show for the first time, but the more shows you play the easier it will become. If you feel prepared for the show it will also be easier and this is why it is important to practice as much as possible before performing live. If you're still intimidated by the crowd, try picturing them in their underwear. It works for Corniel all the time.

Being a famous musician in three easy steps:

- 1 • Practice and play music as much as possible.
- 2 • Meet and greet people with a smile.
- 3 • Play what you love and make people fall in love with what you play.



The Run Through

BANDS MUSIC MOVIES BOOKS GAMES GADGETS CONSOLES



Frankenweenie

Walt Disney's latest comedy/horror *Frankenweenie* is a black and white animation, directed by Tim Burton. *Frankenweenie* tells the story of Victor Frankenstein, a young film maker and scientist who lives with his parents and dog Sparky in a town called New Holland.

When Sparky dies one day, Frankenstein, uses the power of science and lightning, in his makeshift laboratory, to resurrect Sparky. His classmates steel the resurrection formula and accidentally turn the town's dead animals into monsters when their experiments go horribly wrong. The monsters cause chaos at the town fair and Mr Whiskers kidnaps the mayor's niece, Elsa van Helsing. It is up to Frankenstein and Sparky to set things right. Will Frankenstein and Sparky be able to save her from Mr Whiskers? This is a classic Tim Burton movie, full of excitement and suspense, that you do not want to miss!

My Cyberwall

www.mycyberwall.co.za

My Cyberwall is a unique website geared towards curious South African kids, just like you! What if there was a way to combine doing your homework, projects or exam revision and playing fun activities and games? Now there is a website called My Cyberwall that does just that and more!

The website has been designed for kids in Grades 4, 5 and 6, and is a fun way to learn and complete activities. You can also play loads of games and ask for any advice of the My Cyberwall team about things that may be bothering you at home or at school.

My Cyberwall is a space just for you to learn and have tons of fun! Ask your parents to sign up today for a membership or free limited access to check it out!

Competition:

Win one of five subscriptions to My Cyberwall! Send your name, age and answer to the question below to competition@supernova.co.za or sms 082 814 1981. Name one thing that you can do on My Cyberwall.

Ben 10: Omniverse (Volume 1)

Heads up *Ben 10* fans! Volume 1 of *Ben 10: Omniverse* is now available on DVD! In this season, our hero, Ben Tennyson, is older and is set to save the world on his own with his brand new Omnitrix. With Gwen and Kevin off to college, Grandpa Max decides to team Ben up with Rook, a plumber who is highly skilled with his Proto-tool, but severely lacks any experience. While Ben and Rook explore a secret alien city, a mysterious villain, Khyber, and his deathly dangerous dog who wears the Predatrix, hunt down Ben. Luckily, Ben has 10 brand new aliens to choose from! *Ben 10: Omniverse* also features never-before-seen adventures of young Ben and Gwen, with Grandpa Max. It's a DVD that *Ben 10* fans just have to get their hands on!

Competition

Win one of five *Ben 10: Omniverse* Volume 1 DVD packs! Send your name, age and answer to the question below to competition@supernova.co.za or sms 082 814 1981. What is Ben's new partner's name?

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The Three Stooges

The 2012 slapstick comedy, *The Three Stooges*, directed by the Farrell brothers, tells the story of orphans Moe Howard, Larry Fine and Curly Howard, who were dropped off at the Sisters of Mercy Orphanage when they were babies. As adults, Moe, Larry and Curly are still living at their childhood orphanage and trying to help the nuns take care of the kids, but they cause more mayhem than anything and make the nuns completely nervous. When the trio discovers that the orphanage will be closing down, unless they raise \$830,000 within 30 days, they take off into the city for the first time, trying to raise the money. Unintentionally, they get sucked into a murder plot and Moe ends up starring in a reality TV show. This is the funniest comedy of 2012 and definitely a movie you want to watch with your friends!

*Please remember that the stunts are done by professionals and should not be tried at home.

The Elementals

This app helps you memorise the different elements on the periodic table.

By giving each of the elements a 'personality', they become characters that are easier to remember than just a series of names. However, this app does not give any extra information about where the elements are found and how they react with one another. This app will only help you if you understand the context of the periodic table before you use it.

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Necsa Visitor Centre

Times: Tues to Fri, 9:00-5:00. Sat & pub hol, 10:00-14:00.
Website: necsa.co.za

Is science your favourite subject? Even if it's not, it will be after you visit the Nuclear Energy Corporation of South Africa (Necsa) Visitor Centre. Here you will learn all about radiation, nuclear energy, nuclear reactors, nuclear waste, isotopes and more! The centre also hosts exhibitions, career talks and science shows.

Reefsteamers steam train trips

Dates: Visit the website below for trip dates, times & details.
Website: reefsteamers.com

Hop aboard a real steam train from Johannesburg Main Station for a fun-filled family day trip to beautiful Magaliesburg. A full-length (10 to 15 coaches) train is hauled by one of Reefsteamers' eight full-sized ex-South African Railway locomotives. You'll get a chance to get up close to the locomotives – maybe even right up in the locomotive's cab where you'll get to know everything you ever wanted to know about steam trains.

ALSO VISIT WWW.KZNKIDS.CO.ZA

COMPETITION

NATURAL ANOMALY

It's your turn
to be a
researcher for
Supernova

Most of the time, baobab trees (*Adansonia digitata*) are bare, but they do actually start flowering when they are about 20 years old.

There is so much more to know about these old giants. Do some research and write up some cool facts about the flowers of baobab trees.

Submit your article with your name, surname, age, school and address to: competition@bkpublishing.co.za, or post it to: Supernova magazine, P.O. Box 6314, Pretoria, 0001.

The best submission will be published in the next issue. The winner will also receive a copy of *The Red Pyramid* by Rick Riordan!

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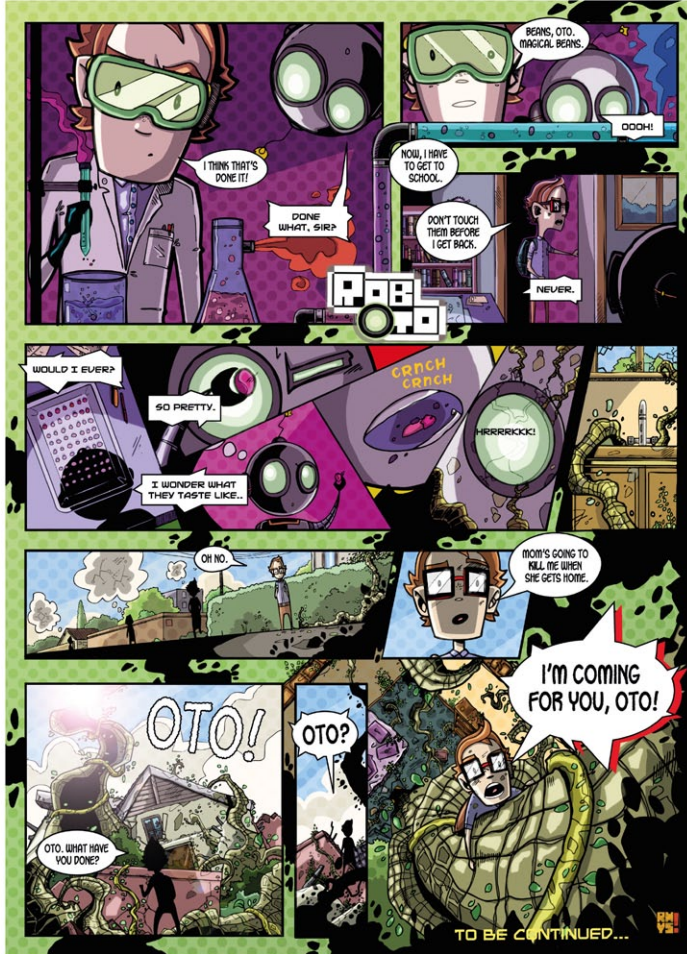
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