



BUZZ

THE MAGAZINE FOR BIG THINKERS

ISSUE 3

**EXPLORE
THE GREAT
UNKNOWN!**

**Ten ways to
help the planet –
what can you do?**

**Breakfast around
the world –
what do people eat in
other countries?**

**FLASH
FICTION**

**A teenage girl
deals with bullies**

The mystery of sleep



Hello, Buzz readers!

It's time for another super issue of *Buzz*, just for you! I'm sure you'll find it really interesting!

Our cover story is about the oceans, ocean exploration and coral reefs. You'll also meet the girl who sailed round the world alone when she was only 16 years old.

Then we've got the story of a lion who lived in a flat in central London.

We learn all about Canada, discover everything about smells then learn how to make two different desserts!

Finally we learn all about dreams and the mystery of sleep.

All that and more in this issue of *Buzz* magazine!

Happy reading!

Ella

Editor-in-Chief

Buzz



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OUR OCEANS, the great unknown



The oceans cover over 70% of our planet,
but we have explored only about 5% of that.
What is in our oceans? Find out with *Buzz!*

OCEANS, our friends

The first oceans were formed about 3.8 billion years ago. Life began there, in the waters. Today, there are more than 1 million different species of life in the oceans – and we have discovered only about 25% of them.

The oceans are always changing because the Earth is always changing. Some seas are warm and some are cold, or even frozen.

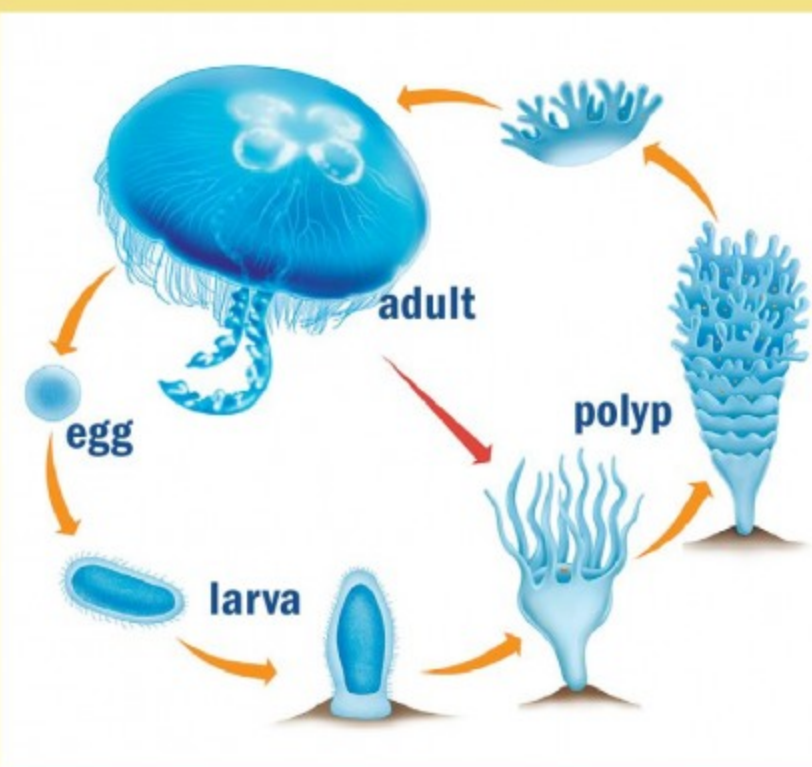
The Mariana Trench

The deepest part of the oceans is in the Mariana Trench in the western Pacific Ocean, about 2,000 km east of the Philippines. Twelve people have walked on the moon, but only five have been to the ocean bottom here. The Mariana Trench is 69 km wide and more than 2,500 km long. Challenger Deep, a part of the Trench, is over 11 km deep. If we could put Mount Everest in the Trench, the top of the mountain would still be 1.6 km underwater!

The immortal jellyfish

Most jellyfish live for a few weeks, but one particular kind of very small jellyfish has discovered the secret of eternal life. Each immortal jellyfish *Turritopsis dohrnii* starts life as an egg. It grows to become a larva, then a polyp, then an adult.

But this animal can also *grow backwards* – an adult can become a polyp again. It gets old, and then gets young again. They only die if they are eaten by fish.



Buzzwords ...

sperm whales – *capidogli*
the ugliest – *il più brutto*
prey – *preda*



Sperm whales have the biggest brains on the planet – five times bigger than a human brain. They dive to 2 km deep and can stay underwater for an hour.



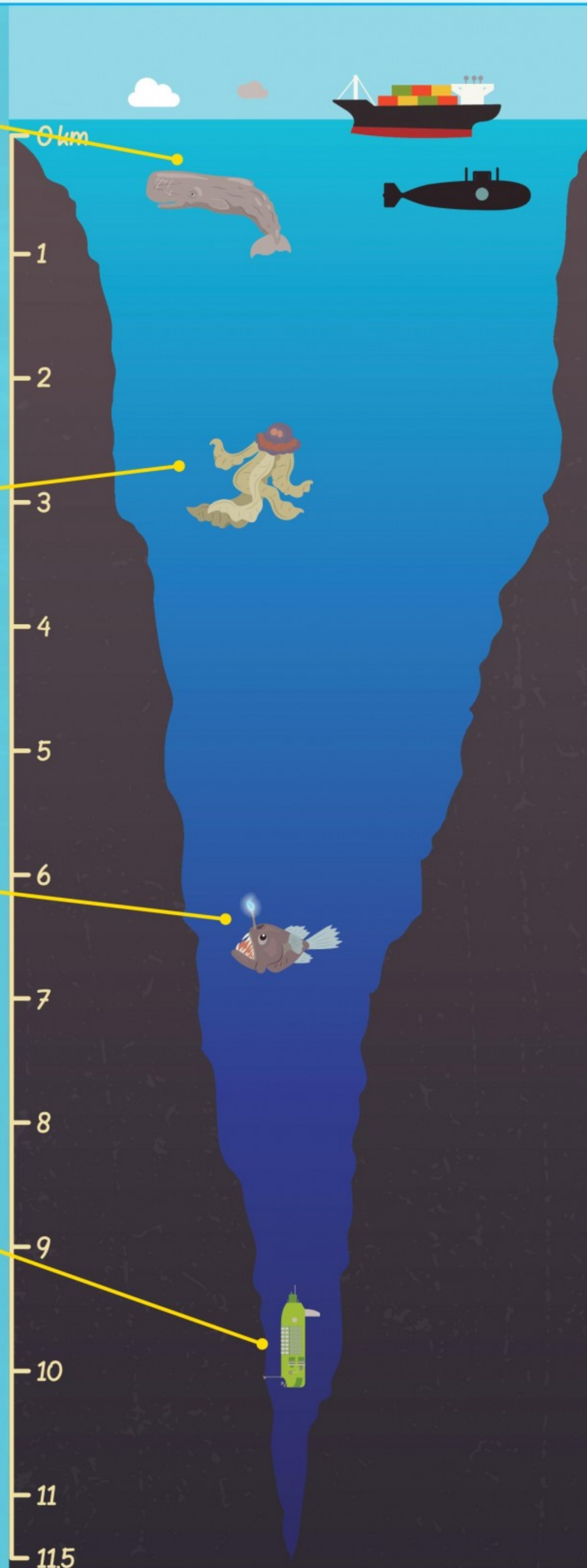
Jellyfish are the oldest living animals. They were here 500 million years ago, before the dinosaurs. They are very simple animals and don't have hearts or brains.



Probably the ugliest animal on the planet, the **anglerfish** attracts its prey with its special light. When the prey comes close, the anglerfish's sharp teeth soon come into action!



The Italian-built submarine **Trieste** was the first to reach the bottom of the Mariana Trench, in 1960. **Deepsea Challenger** went in 2012, and, more recently, **Limiting Factor** in 2019. They discovered several different kinds of fish, and a plastic bag!





SOS CORAL!

The biggest coral reef is in Australia, but there are others, such as in Belize, Central America. Coral reefs are very delicate structures, formed close to land by millions and millions of tiny sea creatures called coral polyps, or just corals. Global warming is killing the corals. Reefs cover less than 0.1% of the world's oceans, but they are home to 25% of all marine species. If the corals die, these other species will be at risk.

Corals are animals – though some people think they are plants, or even rocks! They can't move around, unlike their cousin the jellyfish. Each coral makes a hard shell to live in, and stays there all its life. Millions of single animals collect together in colonies. The millions and millions of hard shells make up the coral reefs. The reefs grow in warm (but not hot) clear water with lots of sunlight.

Each individual animal is called a polyp. Every healthy coral polyp has some algae living inside it. Each polyp protects the algae, and the algae photosynthesize sunlight and give colour to the coral polyp. Colour is life, and the colour of the reef shows that the coral is healthy.

The temperature of the oceans is changing because of human activity. If the temperature of sea water changes too much (up or down), the algae leave the polyps. Without the algae, the coral polyps lose their colour and the reef turns white. Without the polyps, the reef will stop growing. Soon, the seas will destroy the delicate reef structure.



The largest coral reef system on the planet is the Australian Great Barrier Reef.

- It's visible from space.
- It's more than 2,300 kilometres long.
- It's bigger than Italy.
- It's composed of more than 900 islands.



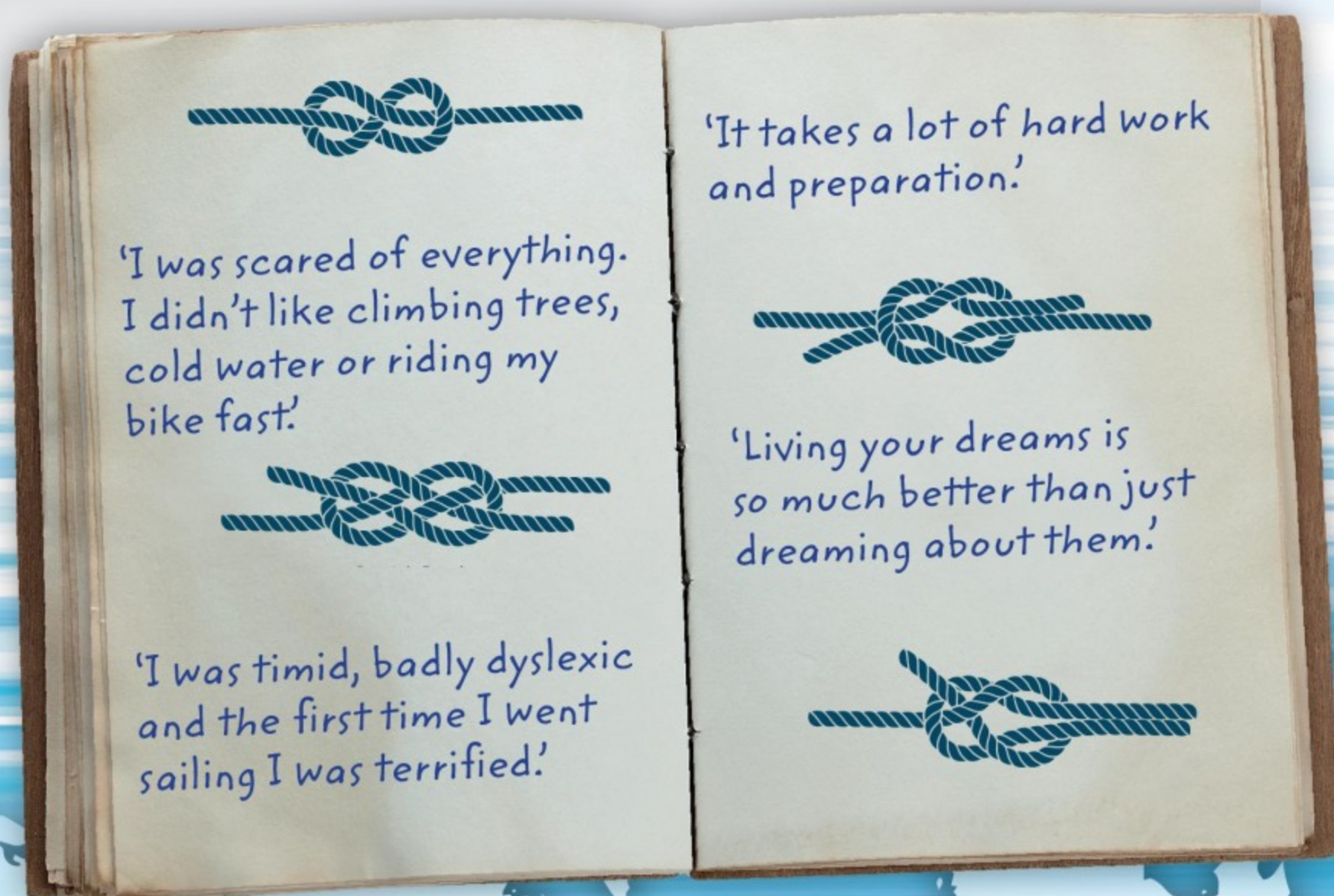
Buzzwords ...
global warming – *riscaldamento globale*
at risk – *a rischio*

Just an ordinary girl

When she was 11, **Jessica Watson** decided she wanted to sail round the world alone. Her parents decided to help her prepare, but other people thought she was too young and inexperienced. They said the journey was too dangerous for a young girl alone. They said she couldn't do it, but she didn't listen. Instead, she worked very hard to prepare herself, and, when she was 16, she did it.



Go out there and go for your dreams ... big or small ...
Work hard and you can do anything.



Jessica's journey

- round the world from Sydney back to Sydney
- 210 days aboard alone
- around 43,000 km
- crossing three oceans and the equator





Ten ways to help our planet

What can you do to reduce your environmental footprint?



1 Don't use disposable cups, glasses, plates or cutlery.

Single-use plastic is bad for the planet. Don't use it.



2 Reduce waste.

If you reuse more things, there will be less waste. You will save money, too.



3 Use less energy.

Turn lights and computers off when you aren't using them. Unplug your phone charger when it isn't in use. Use less heating and air conditioning.



4 Eat and drink better.

Eat more fresh, local food – transporting food thousands of kilometres requires packaging and energy. It produces more greenhouse gases.



5 Save water.

Water is precious – don't waste it. Take showers, not baths. Turn off the tap when you brush your teeth.



6 Use solid soap, not liquid or gel.

Liquid soaps need five times more energy to make, and 20 times more energy to package. Plus, you use seven times more gel than solid soap.



7 Use rechargeable batteries.

This will save lots of money. If you must use non-rechargeable batteries, don't throw them in the general waste. Take them to a special recycling centre.



8 Use less paper.

Use both sides of a page. Collect used paper in your classroom and at home. Ask your school to recycle it.



9 Shop with intelligence.

Buy less plastic. Don't buy things in plastic bottles or containers. Always carry reusable shopping bags.



10 Drive less.

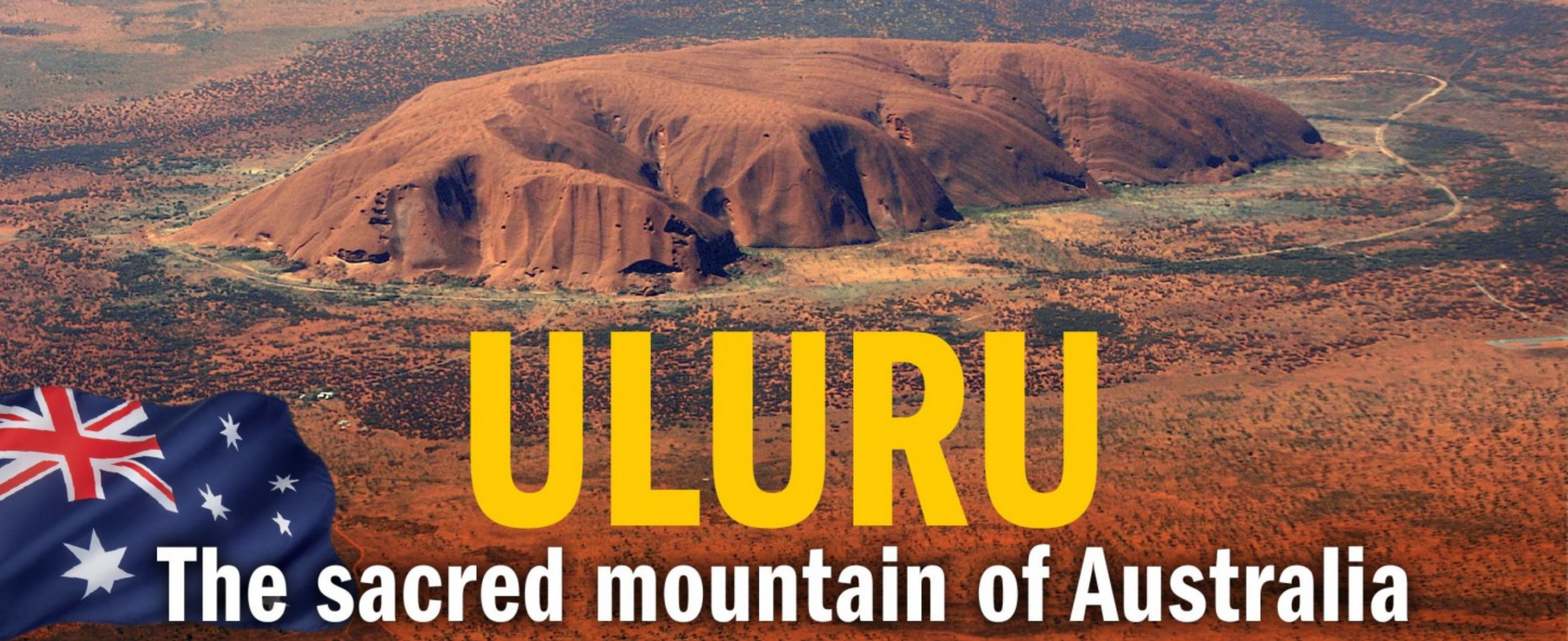
Walk, or ride a bike. Use public transport.



Buzzwords ...

environmental footprint –
impronta ambientale
disposable – *usa e getta*

cutlery – *posate*
single-use – *monouso*
greenhouse gases – *gas serra*



ULURU

The sacred mountain of Australia

Originally from England, William Gosse went to live in Australia in 1850. Years later, Gosse was working as a government surveyor when he 'discovered' Uluru in the centre of the outback in 1873. Uluru wasn't difficult to see: the land around was very flat, and the mountain was clearly visible from a very long way away. Gosse decided to call it Ayers Rock after Sir Henry Ayers. But the mountain already had a name: Uluru. The Anangu people – an Australian aboriginal group – gave the mountain this name. They have lived in Australia for many thousands of years, and they named everything there a long time ago.

Some animals of Uluru



Red kangaroo



Emu



Perentie



Rock wallaby

New animals in Australia

Australia is very far from the other continents. Having no contact with other lands, the ecology of Australia is unique. But when Europeans came to Australia, they introduced some foreign animals.

The first camels arrived in the 1840s. They were used for transport, but some escaped. One hundred years later, there were more wild camels in Australia than anywhere in the world! Later, in 1859, Thomas Austin,

an English settler, imported 24 rabbits because he liked hunting, and there were no rabbits in Australia. One hundred years later, there were more than 600 million.



Uluru is a monolith – that means it is one huge stone. It was created around 600 million years ago and was originally at the bottom of a large ocean. It is 3.6 km long, 2.4 km wide, 348 metres above the desert and 863 metres above sea level.

You can walk round it in around three and a half hours (it's 10 km), but the Anangu ask you not to climb it because it is a sacred place for them.

Uluru changes colour according to the position of the sun – in the morning and evening it is deep red.



Buzzwords ...

surveyor – *agrimensore*
the outback – *Outback, entroterra australiano*

The BIG jumpers



Tree kangaroos

Kangaroos are strange, but the strangest of all are tree kangaroos. They can't move well on the ground – but they can climb trees very well!

When you think of Australia, you also think of kangaroos. How much do you know about these animals?

Kangaroos are marsupial mammals. This means that when baby animals are born, they move to a 'pocket' on their mother's front. The baby (or joey) stays there for up to 15 months.

There are actually 60 different kinds of kangaroo. The biggest is the red kangaroo. They can be two metres tall and weigh 90 kg. The smallest is the musky rat-kangaroo. It's about 20 cm tall and weighs 300 g.

- Red kangaroos can easily hop at 40 km/h.
- Their top speed is 70 km/h.
- They cannot move backwards.
- They can jump three times their own height.
- They are very good swimmers.
- They can only move their feet separately in water.
- They can be aggressive.
- Joeys weigh two grams when they are born.



Red kangaroos boxing



Top speed: 70 km/h



Mother and joey



They live in groups of ten or more.

Kangaroo communications

If kangaroos see danger, they will drum their feet on the ground to communicate with others. Sometimes they also bark, like dogs. Mother kangaroos call their joeys by making a clicking sound.

Kangaroo meat

Some Australians have become 'kangatarians' – the only meat they eat is kangaroo. They say it is healthy, organic meat, high in protein and low in fat, and they say it does not harm the environment.

Australia exports kangaroo meat to 55 countries.





Stay in the studio. Go anywhere.

With digital photography, actors can seem to be anywhere – and never leave the studio! But how does it work?



■ Background (only one colour) + subject (many colours)

■ Choose any photograph as a new background



**Teegan
aka Becky**

**Mark
aka Matt**

**Ariella
aka Ruth**

**Macready
aka Adam**



Real name: Teegan
Character name: Becky
Been an actor for: 10 years
Number of roles played: 15
Favourite role: July in the musical *Annie*
Places visited for work: UK, Monaco
Dream character to play: Éponine in *Les Misérables*
Music: Shawn Mendes, Ed Sheeran and soundtracks to musicals
Ambitions: To go to drama school and hopefully perform in the West End



Real name: Mark
Character name: Matt
Been an actor for: About 8 years
Number of roles played: About 30
Favourite role: Fletcher in *The Bodyguard*
Places visited for work: Mostly London
Dream character to play: Charlie in *Charlie and the Chocolate Factory*
Music: Pop, mainly
Ambitions: To perform in New York on Broadway



Real name: Ariella
Character name: Ruth
Been an actor for: 5 years
Number of roles played: 2
Favourite role: Ruth in *Think Big!*
Places visited for work: All around the UK
Dream character to play: Serena van der Woodsen from *Gossip Girl*
Music: The Rolling Stones, The Beatles, Justin Bieber, Miley Cyrus, Katy Perry. I love all different types of music! I've also written a few of my own songs!
Ambitions: To be an actor on Netflix



Real name: Macready
Character name: Adam
Been an actor for: 6 years
Number of roles played: More than 20
Favourite role: Candy in *Of Mice and Men*
Places visited for work: UK, Barcelona
Dream character to play: A character in a Christopher Nolan film
Music: Anything from hip hop to 1960s classics
Ambitions: To make a living doing what I love



Video Watch the interview to find out more about the actors!



■ Use a computer to remove the background colour. Be careful! If the subject contains the background colour, the computer will remove it there, too!



■ Your subject has travelled!

Breakfast around the world

They say it's the most important meal of the day. Why is that? And what makes a good breakfast?



A traditional breakfast in **Britain** is cooked. In Scotland, they might even eat kippers (smoked fish) or porridge (oats cooked in milk with sugar and a little salt).

In **Spain**, a good breakfast is churros (long, fried sweet waffles) and hot chocolate.



Grilled tomatoes

Mushrooms

Bacon



In **Japan**, people like soup, rice and pickles. They drink green tea.

In **Canada**, people love to eat pancakes with maple syrup poured over the top.



Tim, 17, student

I don't usually have time for breakfast. On Sundays, I have time, but I still don't eat anything. I don't feel like eating or drinking when I get up.

BAD HABIT



Simona, 41, teacher

I like breakfast on Sundays. I have a cappuccino and a pastry. But during the week, I just have a quick espresso coffee.

BAD HABIT



Angela, 16, student

I always have my breakfast, but not when I get up. I have it in the middle of the morning, at about eleven o'clock.

BAD HABIT



Danny, 22, footballer

I always have my breakfast. I get up earlier so I can eat and drink before training. You should never start your day without breakfast – it isn't cool.

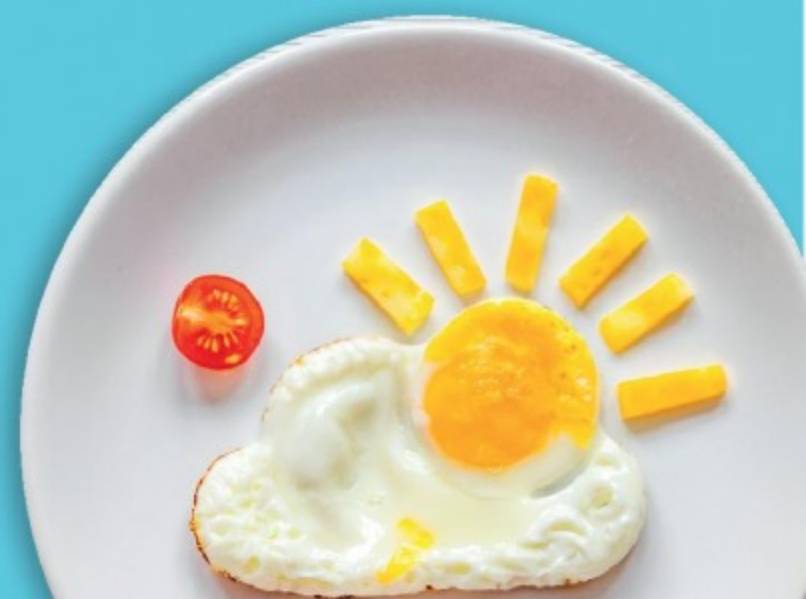
GOOD HABIT



Dr Miriam Levov, nutritionist

Get up a little earlier and be sure to have something to eat and drink before you go out. When you wake up, you haven't eaten or drunk for at least eight hours – that's the equivalent of a whole day. Would you go all day without food? Your body and your brain need energy and water. Don't forget your liquids!

Scientists have found that students who don't have breakfast get worse test results and remember much less from class.





In **Mexico**, people like chilaquiles. These are tortilla crisps cooked in a spicy green or red sauce with cheese and cream on top. The most popular drink is coffee or orange juice.



In **Southern India**, dosas are popular for breakfast. They are a type of pancake made with rice and they are eaten with chutney. People drink chai, a type of tea with spices.



In **Jamaica**, a common breakfast is ackee and saltfish. It is very spicy! To make it, you cook saltfish with onions, peppers and ackee, a local vegetable. People drink herb tea.



Check your **BREAKFAST** style

Before you go out ...

- Do you always drink at least one glass of liquid?
- Do you always eat something?
- If you have a hot drink, do you drink it without sugar?
- Do you sit down for breakfast?
- Do you have breakfast with your family?

Always	Sometimes	Never
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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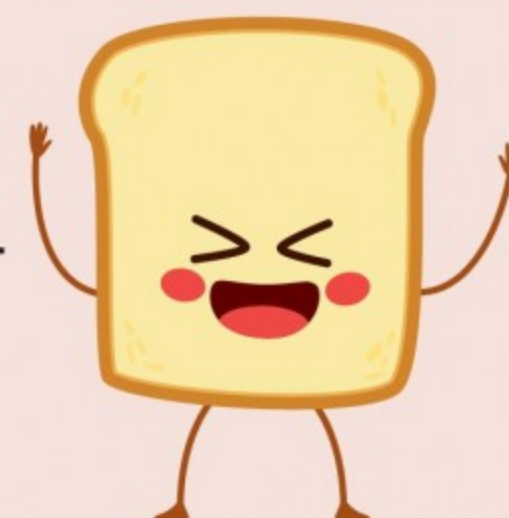
Calculate two points for each 'ALWAYS' answer, one point for each 'SOMETIMES' answer and no points for each 'NEVER' answer.

What did you score?

7-10 points: You're a **BREAKFAST CHAMPION!**

4-6 points: You're doing OK, but could do better. Eat more breakfast!

3 points or fewer: You should try to change. Eat something small, and drink a little.



Buzzwords ...

pickles - *sottaceti*
pastry - *pasticcino*
nutritionist - *dietologa*

chutney - *salsa piccante*
spices - *spezie*
saltfish - *baccalà*



True friends

**If you lived in a big city, how would you look after a lion?
Ace and John had exactly this problem in London, in 1969.**

Ace and John were two young Australians who wanted to travel. In 1969, when they were in their twenties, they decided to move to London. That same year, two lions were born in a small English zoo. The mother refused to look after her cubs, so the zoo decided to sell the lion cubs to a shop in London.

It was Christmas 1969, and Ace and John were new tourists in town. Of course, they went to Harrods for their Christmas shopping.

You can imagine their surprise: on the second floor, in a small cage there were two lion cubs. Ace and John watched the animals for several hours.

On 16 December 1969, they walked out of Harrods with a lion on a lead. Christian was four months old, weighed 15 kg and was about 80 cm long. John and Ace knew nothing about lions.

They worked in a furniture shop on King's Road, at the centre of fashionable London. They lived in a flat above the shop, and came downstairs every day to work in the shop.

Christian lived in the basement below the shop, where he had lots of space, and he came up every day to 'work' in the shop. His job was to attract people to the shop. He was good at his job – soon he was very famous, and many people came to visit him. Every evening after work, John and Ace took him for exercise to a large closed garden nearby.

Meanwhile, Christian was growing bigger and bigger. A flat in London was no place for an adult lion.

One day, two famous actors came into the shop to buy some furniture. They were the stars of the film *Born Free*. In the film, they played the role of two rangers from Kenya. The actors introduced the Australians to the real rangers in Africa. And the plan? To return Christian to the wild.

It wasn't going to be easy. The first step was to leave the city. Christian and his two human friends went to live in the English countryside. And they started to negotiate with the government in Kenya.

Three months later, Christian was over a year old and everything was finally ready. He had official permission to travel. There was a good place for him in a national park in Kenya, with another young lion called Boy.



London was a very exciting city in the 1960s, especially for young people. New music, new fashion, new hairstyles, new behaviour, new politics – new everything!



Harrods, in London, is probably the most famous shop in the world. Millions of people visit every year.



John and Ace flew to Kenya with Christian. They were sad because they were going to say goodbye to their animal friend. But, in another way, they were happy because Christian could be free to live a true lion's life. London is not a good place for a lion, and today it isn't legal to sell wild animals in shops in the UK.

A year later, John and Ace returned to Kenya. They wanted to see Christian again – but how do you make an appointment to visit a lion in Africa? The Australians went to the park, and waited.

Did Christian remember them? Was he happy to see them? You can see the video of their meeting on the internet. Search for 'Christian the lion reunion'.



The 1966 film *Born Free* won two Oscars. It was the true story of Elsa, an orphan lioness in Kenya. Elsa was saved by two rangers, George and Joy Adamson. When Elsa grew up, the rangers reintroduced Elsa into the wild.

Twenty-one different lions and lionesses of various ages were used to make the film.



How do lions live?

Lionesses and young lions live in a group called a pride. A pride has up to 40 animals (but no adult males), and each pride has its own territory. The adult males live in much smaller groups – two to seven lions – called coalitions.

Young male lions live in the pride until they are about two or three years old. Then, they are forced to leave. Life is very difficult for a single lion, so sometimes brothers and cousins leave together and form a coalition. A single lion will look for a coalition, and must fight to join it. When a lion is too old to hunt, he is forced to leave his coalition and to live alone until he finds another coalition or dies.

New coalitions live and hunt together for about two years. They can have relations with one or more prides.



Buzzwords ...

in their twenties – ventenni
meanwhile – nel frattempo

role – ruolo, parte
orphan – orfana

What do you know about Canada?

Canada is big!

- It's 33 times bigger than Italy.
- Only Russia is bigger.
- Canada touches three oceans: the Pacific, Atlantic and Arctic Oceans.
- There are around 2 million lakes.
- The largest lake, Lake Superior, is more than three times as big as Sicily.
- Canada is 5,500 km from east to west, and 4,600 km from north to south.
- Its population is 37 million.
- The word *canada* means *village* in several First Nations languages.

Canada's big problem

In 1867, several different British colonies in North America founded a new country: Canada. But it was very difficult to travel from one end of the country to the other. From east to west, there were forests, lakes, mountains, canyons, prairies, rivers, more mountains and more forests – not an easy journey by horse!

What was needed? A railway!

In 1871, they started to build one, from the Atlantic to the Pacific. Only 15 years later, the first trans-continental train left Montreal and arrived in Port Moody on the Pacific coast on 4 July 1886. Crossing Canada now took only six days.



The Canadian flag

Nobody can confuse the Canadian flag with any other flag. Its red maple leaf is instantly recognizable. Canada is a relatively new country and the flag is even newer. It was proclaimed by Her Majesty Queen Elizabeth II, Queen of Canada, in 1965.

Wait! Queen Elizabeth of Canada?

Yes: the monarch of the United Kingdom is also the monarch of Canada (as well as Australia, New Zealand and 12 other countries!).



The Mounties

The distinctive red uniform of the Mounties, or Royal Canadian Mounted Police (RCMP), is always very visible. In 1873, the government in Ottawa decided a special police force was needed – a police force on horses! They used to ride their horses and keep order, from the frozen North to the borders with the USA. Today, the RCMP still uses horses, but also cars, jeeps, boats, aeroplanes and helicopters!

What could be more Canadian than maple syrup? But where does it come from and how is it made?



You need a drill, a bucket, a tap, a tube – and a maple tree.



Maple trees are 'tapped' between February and April.



Make a hole in the tree trunk; insert the tap and the tube to collect the sap. You'll have to wait a while for the bucket to fill!



Boil the sap. Forty litres of sap make one litre of pure maple syrup.

Buzzwords ...

bucket – *secchio*
sap – *linfa*

First Nations people in Canada

North America wasn't uninhabited when Europeans arrived. Inuit people lived along the coasts and on the islands in the frozen Arctic north, while First Nations peoples inhabited the warmer south from the Atlantic to the Pacific. The Canadian constitution recognizes the rights of these indigenous peoples.

According to traditional First Nation teaching, all people should live in harmony with the natural world. This is the most important law of life: values and traditions are gifts from the Creator.

The First Nations in Canada today

- more than 1.2 million people
- 634 different communities on traditional lands
- more than 50 different traditional languages

Each community has its own:

- culture and customs
- local government and police

The Haida

Haida Gwaii is a very beautiful part of British Columbia off Canada's west coast. Haida Gwaii means 'Islands of the People'. The Haida People share it with their brothers and sisters – the whales, salmon, bears, deer, coyotes, moose, cougars, eagles and other birds and animals that live in the waters and forests there. The Haida people are believed to have been there for more than 14,000 years.

The Haida traditionally lived in big rectangular wooden houses. Sometimes the houses were 30 metres long; two or three families lived there. They decorated the outside of their houses with ravens, eagles and other figures.

Haida totem poles are famous everywhere in the world. They are usually made from large red cedar trees and are sculpted with different symbols and animals. Some totems tell a story, some welcome visitors and some commemorate ancestors.

The Haida were expert sailors. They made big and small canoes. Small canoes were for fishing. Big canoes could carry 40 people and two tons of cargo. They were used for trading, travel, to go to feasts or to war.

You are what you eat,
You are what you think,
You are what you sing,
You are what you do,
You are what you carve,
You are Haida Gwaii.

(Gwaliga Hart, Haida sculptor)

Potlatch

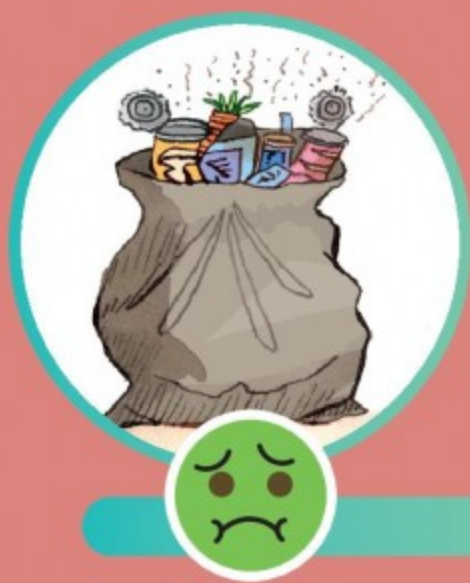
The original inhabitants of North America didn't buy or sell things. They didn't own land. Instead, they exchanged with each other, or gave things to each other. This often happened at a potlatch – a traditional feast. A potlatch was held for births, adoptions, weddings, deaths or other important occasions. People were invited to a house to stay, to eat, to tell stories, to sing and to dance. They were all given presents. Important people gave big presents, and the more you gave, the more important you were. Some people gave all the food they had because they knew the forest and the ocean would feed them in the future.

Buzzwords ...

uninhabited – disabitato
gifts – doni

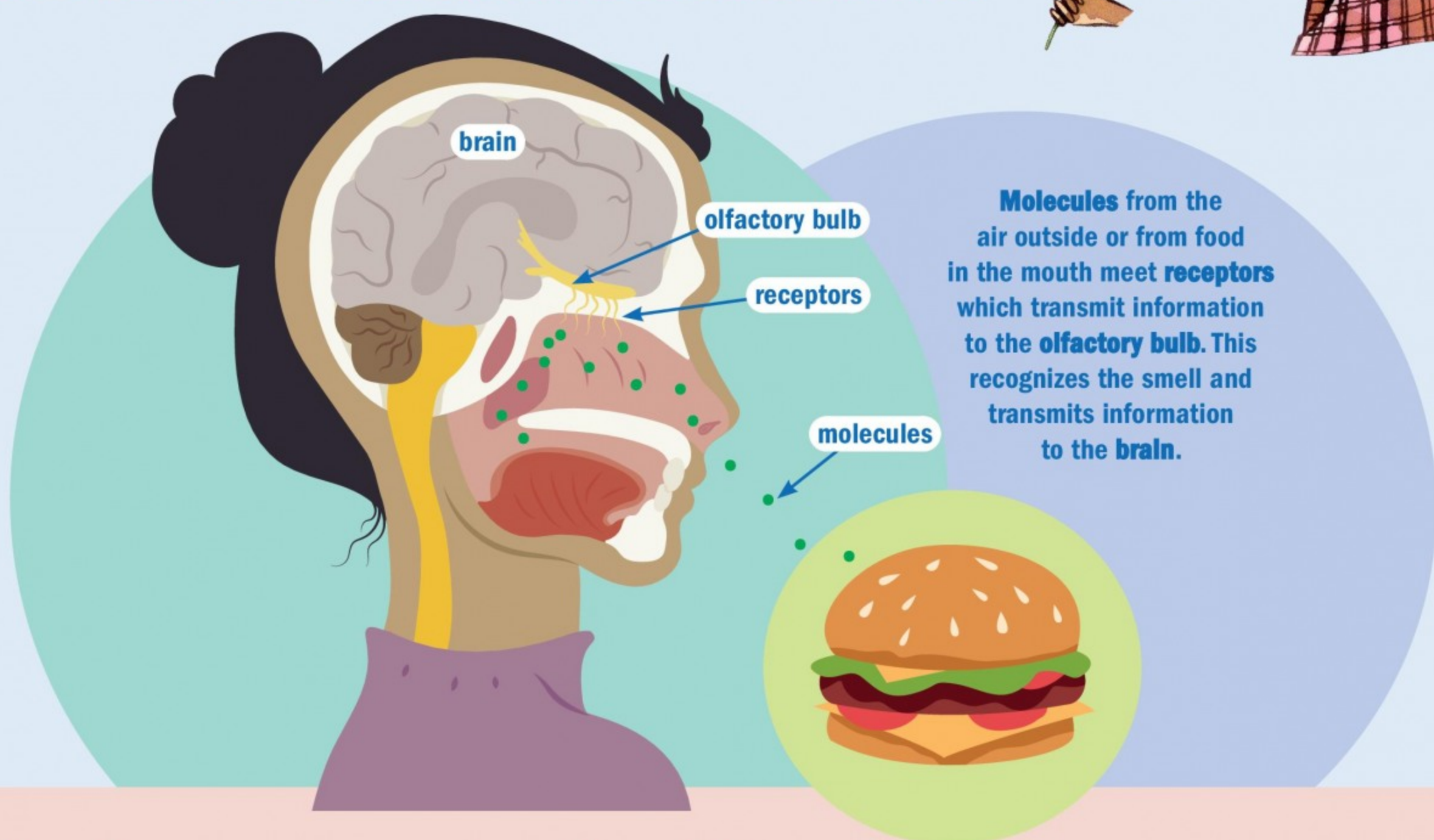
sculpted – sono scolpiti
carve – intagli





Know your nose

Smell keeps us safe: we can smell fire before we see the flames; we don't eat bad food because it smells awful. But how does our sense of smell work?



How does our sense of smell work?

Q A piece of cheese smells. A piece of metal doesn't. Why?

A Something smells because it loses molecules to the surrounding air. If these molecules go into our nose, they can be detected. Some things lose molecules more easily than others, and we can smell them!

Q What happens in your nose when you smell something?

A Molecules in the air hit special nerve cells in your nose. These cells can recognize the molecules and are connected directly to your brain. Your human nose can recognize 1 trillion different smells!

Q Do molecules only enter my nose from the air?

A No, they also come from your mouth. Your mouth and your nose are connected. When the molecules come from your mouth, your brain understands taste, not smell. In fact, your nose is much more important than your tongue when you taste something.

Q Why do we have a sense of smell?

A Animals use their sense of smell to find food and to understand if food is safe to eat. We do the same. A bad smell means danger. Some things are dangerous – poisons and fire, for example. Over hundreds of thousands of years, our sense of smell has evolved to recognize these warning smells.

Q Some smells provoke strong emotions. Why?

A Your olfactory bulb is connected directly to the amygdala, one of the oldest parts of your brain. The amygdala doesn't think; it experiences and expresses emotions. We have five senses, but smell has the most direct connection to our brain.

Q Some smells help me remember the past. Why?

A We learn smells, even before we can walk or talk. Smells are closely connected to our memory, so that we can learn them easily.

Q Can all animals smell in the same way?

A Yes, and no. Yes, because the mechanism is similar. No, because many animals are better smellers than humans. Salmon use smell to find their way home – molecules travel in water as well as in the air, so the principle is the same. Some animals don't use noses to smell – snakes smell with their tongues, and insects smell with their antennae. And scientists have found that even bacteria have a sense of smell!

Animals' favourite smells

Some animals really like the smell of dirty socks: for mosquitoes, it's their favourite smell. Scientists have made an artificial smelly socks odour, and are using it in mosquito traps. Dog trainers use old socks to educate their dogs, and bears also like the smell very much. Bears have better smell than dogs. In fact, bears can smell food from 30 km away! They can even smell food buried underground!



Pheromones



Many animals and some plants use smell to communicate. An animal may produce a particular chemical, and leave it in the environment. It's a chemical message to other animals of the same species.

When a second animal smells the chemical, the message is understood. These chemicals are called pheromones. Animals leave chemical messages in the environment.

Common messages transmitted by pheromones:

- This is my territory – stay away!
- Food is in this direction – come and get some!
- Help – something is attacking me!

Perfume

The oldest report of perfume is on a cuneiform tablet from Babylonian Mesopotamia. According to this ancient tablet, a woman called Tapputi was making perfume in 12,000 BC. She distilled flowers and oils to make perfume; today, we call her the first chemist.



We don't only put perfume on our bodies – we also spray it in our shops. Many international companies have developed their own particular perfume and they use it in their shops. Smells connect directly to your brain, and the right smell helps sell!

Smelly food



Scientists at a British university used an electronic nose to find the world's smelliest cheese: the French cheese Vieux-Boulogne. This cheese was invented in 1982, so it isn't traditional, but around the world there are some traditional foods that smell quite strongly, too ...

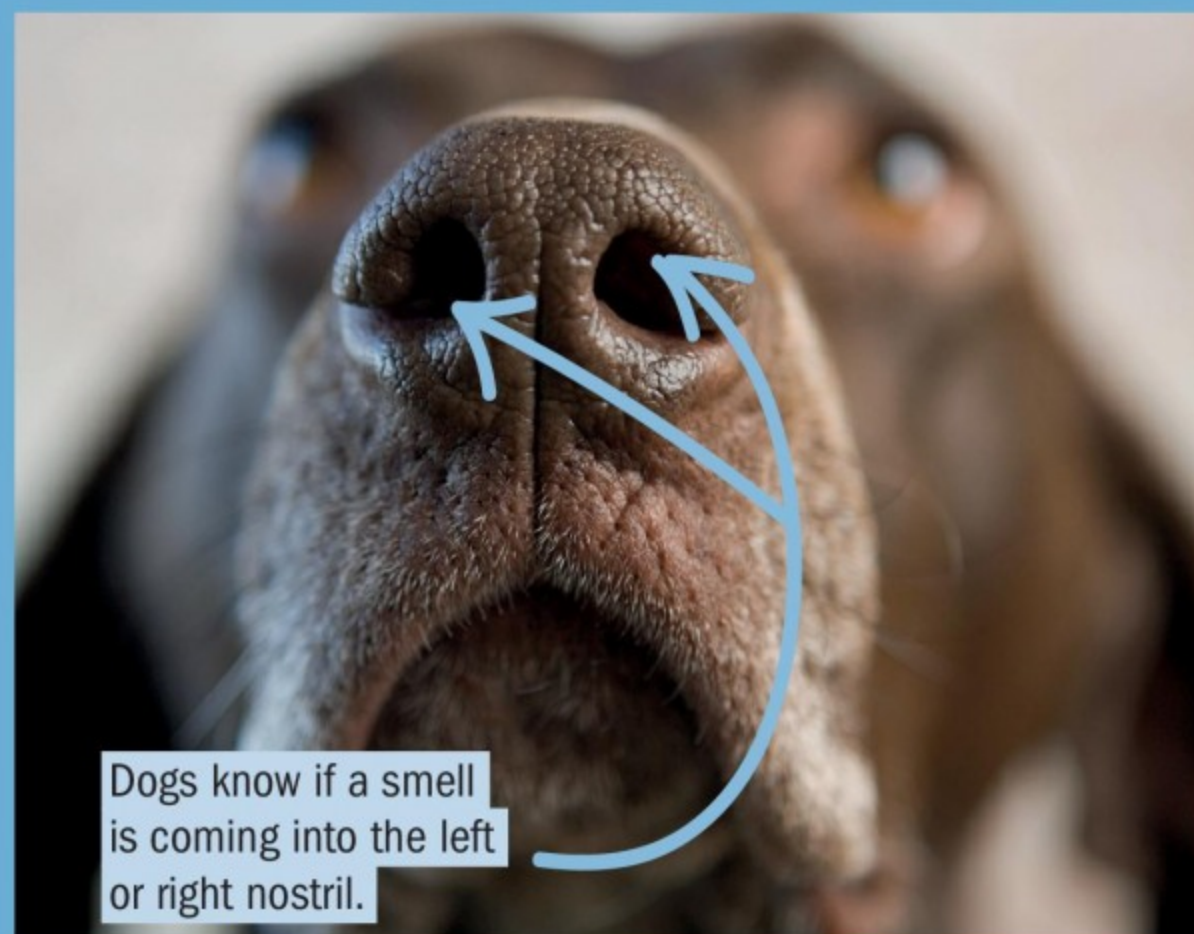
Animals can smell the Asian durian fruit from more than a kilometre. The smell is so strong that it is illegal to take this fruit on public transport in Singapore! But people who have eaten durian say it is the King of Fruits!

In China, they make 'century eggs'. A fresh egg is covered in mud mixed with tea. It is then put away for several months before it is eaten. The taste is like very, very good boiled eggs, but the smell is very strong.

Buzzwords ...
warning – *di avvertimento*

buried – *sotterrato*
distilled – *distillava*
spray – *spruzziamo*

Detection dogs

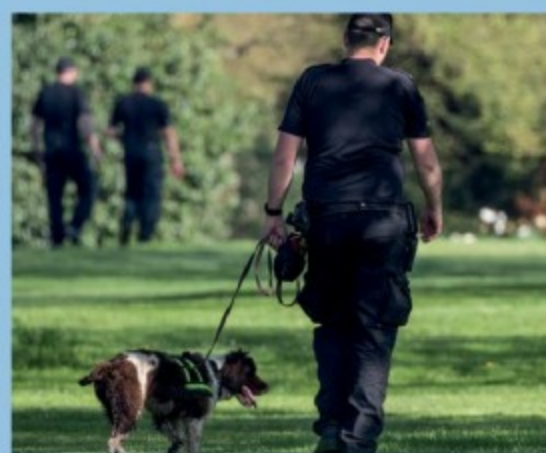


Dogs know if a smell is coming into the left or right nostril.

Not all noses are the same. A dog's nose is 10,000 times more powerful than yours. You have 6 million receptors in your nose; a dog has 300 million. The part of a dog's brain which understands smells is 40 times bigger than ours.

Have you ever noticed how a dog sniffs? Nose to the ground – sniff, sniff, sniff! Then it moves a little and sniffs again. Then back – and sniff, sniff, sniff again! There is a good reason for this. Like us, dogs have two nostrils. But dogs are better smellers than us: they know if a smell is coming into the left nostril or into the right one. You can tell the direction of a sound by turning your head and using two ears. In a similar way, with their two nostrils dogs can understand the direction of a smell.

Dogs can be trained to detect many different things.



Tracker dogs can look for a missing person.



Medical dogs can smell some kinds of disease, and this is much quicker and cheaper than using machines.



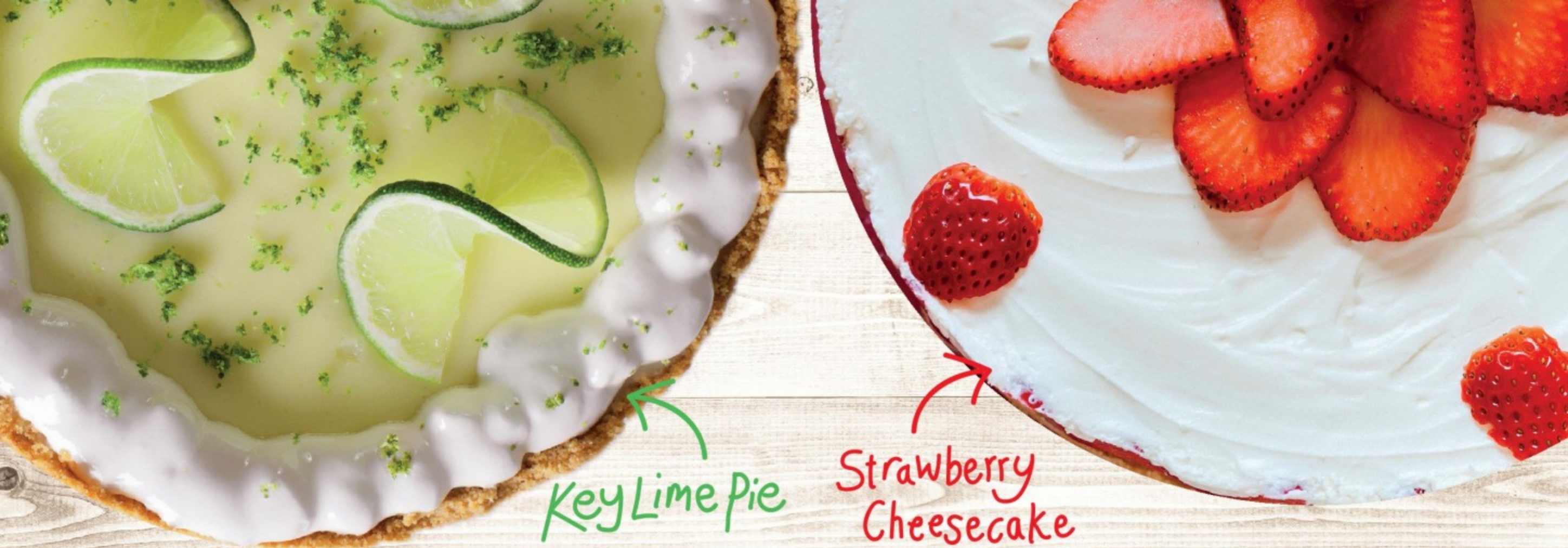
Army dogs can locate mines made of metal **or** plastic – metal detectors cannot do this.



Police dogs can find evidence and clues at crime scenes – they can smell things that humans can't detect.

Buzzwords ...
nostrils – *narici*
mines – *mine*

evidence – *prove*
clues – *tracce*



Two pies for the price of one!

These two pies use the same base, but they are very different.

Use the same crust for both!

Ingredients ▪ 250 g biscuits ▪ 100 g butter

Method

- You need biscuit crumbs to make the crust. If you have a food processor, use that. If you don't have one, put the biscuits in a strong, clean plastic bag and crush them with a rolling pin.
- Cut the butter into very small pieces and melt it in a frying pan over a low heat.
- Then, mix the butter and the biscuit crumbs together in a mixing bowl. Put the mixture into a 20 cm cake tin and press it down firmly with the back of a spoon. For cheesecake, cover only the bottom of the tin. For key lime pie, cover the bottom and 1.5 cm of the side as well. Leave in the fridge for 60 minutes to chill (for the cheesecake), OR put in the oven for 15 minutes at 160°C (for the Key lime pie).

double
yummy! 😊

Key lime pie – filling

Ingredients

- 4 egg yolks
- 400 g tin of condensed milk
- (4 limes / 125 g) lime juice
- 2 teaspoons lime zest
- whipped cream (optional)
- lime slices and more lime zest for decoration (optional)

Method

- Turn the oven on to 180°C.
- Use an electric mixer to beat the egg yolks until they are thick and light yellow.
- Mix at a low speed and slowly add the condensed milk.
- Continue mixing at a low speed, and slowly add the lime juice. Then add the lime zest.
- Pour the mixture into your crust.
- Bake for 15 minutes. Ask an adult to help you.
- Remove and cool.
- When the pie is cool, decorate with whipped cream and slices of lime and a bit of zest, if you like.

Strawberry cheesecake – filling

Ingredients

- 100 g icing sugar
- 5 g (1 teaspoon) vanilla extract
- 400 g strawberries
- 875 g soft cheese (275 g ricotta + 600 g soft cream cheese OR 875 g soft cream cheese)

Method

- If you use ricotta, put it in a sieve and place the sieve over a bowl. Strain it overnight.
- The next day, throw the liquid away and then pass the ricotta through the sieve.
- With an electric mixer, mix all the cheese, vanilla extract and sugar together.
- Take 150 g of the strawberries and chop them into small pieces. Mix them into the cheese.
- Put the cheese and strawberry mix onto the base. Leave in the fridge overnight.
- Cut the remaining strawberries in half and decorate the cheesecake.

Buzzwords ...

crust – sfoglia
crumbs – briciole
food processor – robot da cucina
rolling pin – mattarello

frying pan – padella
yolks – tuorli
zest – scorza
whipped cream – panna montata

icing sugar – zucchero a velo
bowl – terrina
strain – lascia sgocciolare

The mystery of sleep

Everybody likes sleeping. But why do we need to sleep?

We spend about a third of our lives asleep. So, what exactly is sleep? Nobody really knows.

But we know some things about sleep. If you don't sleep enough, you can get ill. Your brain won't work properly and your memory will suffer. We also know that there are two kinds of sleep: REM (rapid eye movement) and NREM (non-rapid eye movement). So, what's the difference?

About 25% of sleep time is REM, while 75% is NREM. For babies, it's 50% of each.

If you are healthy, you do both – one after the other, every night. In NREM sleep, you just sleep. Your brain temperature drops. In REM sleep:

- your eyes are closed, but they move very quickly.
- you always dream, but you don't always remember.
- your brain is very active.
- your brain temperature rises.



Dolphins and whales

Like us, dolphins spend a third of their lives asleep, but they sleep very differently from us. Only one side of their dolphin brain sleeps at a time – either the right side, or the left side. And they only close one eye to sleep – the eye on the opposite side of their sleeping half-brain. After two hours, they change sides. If they didn't do this, they would drown. After all, could you swim and sleep at the same time? The sleeping part of their brain doesn't wake up when the animal comes up to breathe, and the waking part of the brain keeps them safe. Whales and other marine mammals sleep in the same way.

Doctors say everyone dreams three to five times every night, but most people forget their dreams when they wake up. Do you remember yours?

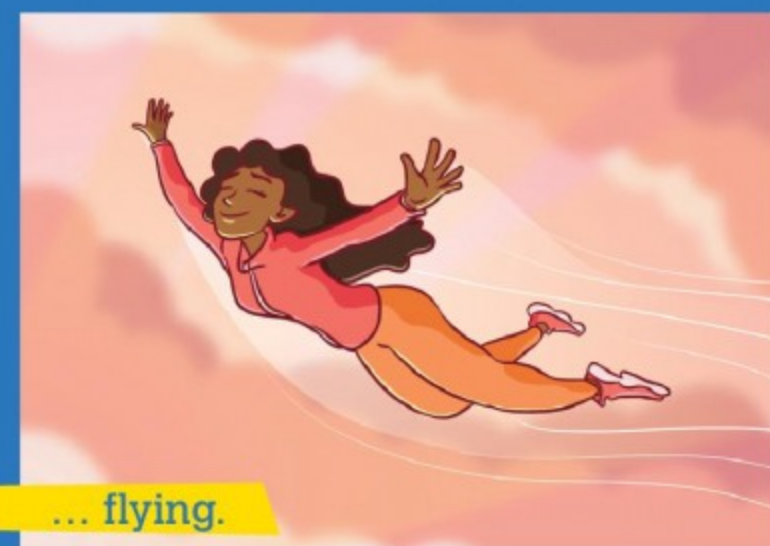
We all dream of ...



... falling.



... being chased.



... flying.

Dreams are often of difficult situations. Do they mean anything?

Doctors say we probably dream for three reasons:

- 1 Tidying your brain** During the day, you have memories, experiences and sensations that you don't need to keep. Your brain puts them in the rubbish.
- 2 Training** If you are worried about something, you dream it. This helps you understand what you should do in real life.
- 3 Problem solving** Your sleeping brain works on problems you didn't solve when you were awake. So, at breakfast, you find the answer!

Stage 1

Light sleep. Normal brain waves. Your muscles relax.

Stage 2

Light sleep. Breathing and heart are slower.

Stage 3

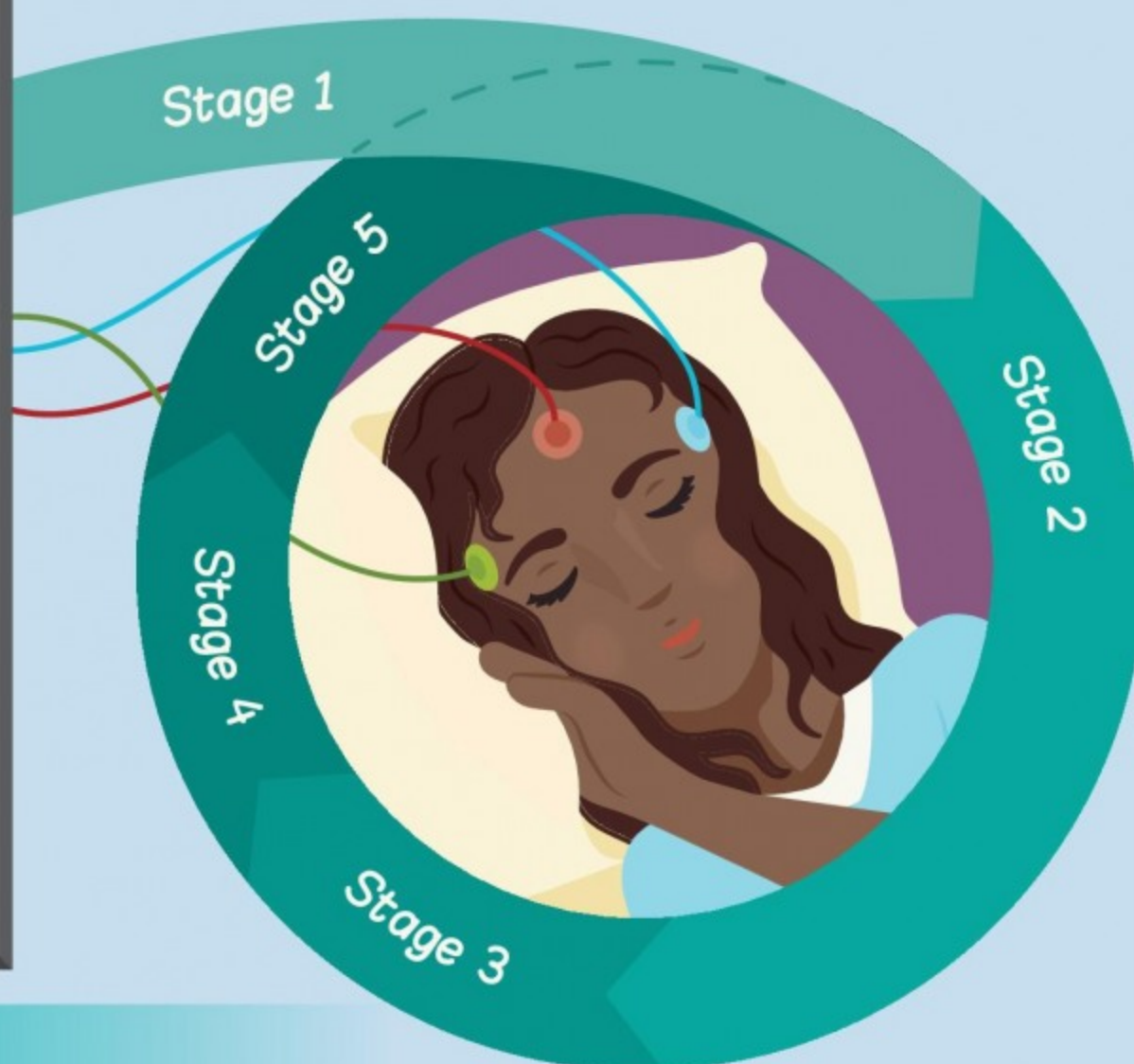
Deep sleep starts.

Stage 4

Very deep sleep. Very slow brain waves.

Stage 5

REM sleep. Moderate brain waves. You dream.



Buzzwords ...
will suffer – soffrirà



EMMA'S VOICE

Emma was standing in front of everyone. They were looking at her and clapping. The music was loud and exciting and it was time for her to sing. She raised her arms, closed her eyes and opened her mouth wide. But she couldn't remember the words. Everyone was waiting for her to sing and she couldn't. Then she woke up. She looked at her clock. It was time for school.

'I just couldn't remember the words,' Emma said. She and Andrea were talking about her dream at school, between lessons. The History teacher was always late and, as usual, the class was getting noisy.

'Ouch!' said Emma, as a paper ball hit her on the back of the head. She turned around to see where it came from. The Johnson twins were both laughing at her. Simona or Alex? It was impossible to know. She chose Alex, and stood up to throw the paper ball back. At that exact moment, Mr Brown walked in.

'Emma!' he said sternly. 'I'm surprised at you! Throwing paper balls! See me after the lesson. Now, everyone - open your books at page 46 ...'

There was a note folded into her French book. 'How did they put a note there?' she thought. She didn't want to open it. She already knew what it said. She turned around to stare at Alex. Alex looked up and Emma tore the note into little pieces. She dropped them onto the classroom floor.

'Emma!' the French teacher said angrily. 'Turn around and pay attention! Pick that paper up now. Bring it here and put it in the bin.' Emma's face was red with embarrassment as she walked to the front of the class with the ripped-up note.

Simona was waiting for her at lunchtime. Emma didn't see her because she was hiding behind the door. When Emma walked past, Simona stepped out into the corridor, holding her nose. 'Oh,' said Simona. 'What's that horrible smell?' And she ran off, pushing past Emma and making her drop all her books on the floor. Emma wanted to cry, but forced herself not to.

Andrea was waiting at the school gate. She saw Emma's face. 'Did they do it again?' she asked. Emma nodded, too upset to speak. They walked down the avenue together, in silence. When they reached the end of the road, Andrea turned to Emma and took her hand.

'Emma,' she said, 'In your dream, you didn't have a voice. But it isn't like that in real life. They can only hurt you if you let them. You can speak. Speak and they will stop. Tell your parents. Tell the teachers.'

'How?' she asked.


'Just speak. Find your voice. Be strong.'

Everyone was clapping again. It was time for her to sing again. She knew she couldn't remember the words. She started to sing anyway and the words came. The music found her voice for her. She sang long and beautifully, to the end of the song.

When she woke up, she knew what to say to the Johnson twins, and to her class teacher. It was going to stop.




Accidents

Ruby Has anyone got any  ?



Jessie No, I haven't got any crutches. Why do you need them?


Ruby My bro's at the hospital. He's hurt his leg. Mum just phoned and we need to borrow some.

Salim Hope your bro's OK. 

Andy We've got some crutches. I'll ask Dad if you can borrow them.

Andy Dad says OK. I'll bring them over if you want. B4 it gets dark if you need them today.


Ruby Thanks, Andy. You're a . Mum & Tim are still at the . They've been there since three o'clock. I had to cook my own meal (frozen pizza, yum!).


Jessie I hate hospitals. You have to wait, SO BORING! 


Salim How did Tim hurt himself?

Chai He fell over at the swimming pool.

Ruby Chai, that's right. How do you know?

Chai Tim and my sis are in the same swimming team . She saw it happen.


Ruby Good news – he hasn't broken his leg! It's just a sprain. So he'll only need  for ten days.

Andy I'm leaving now. I'll be at your house in ten mins with the .

Salim I'm glad he didn't break his leg. I've never broken anything. It must be terrible.


Jessie I broke my leg when I was little. I fell off a wall on holiday.


Chai I'm frightened of breaking something. That's why I don't want a scooter.


Salim I'm frightened of , but I still go in the garden.

Chai That isn't the same!

Jessie Chai's right – scooters can be really dangerous.



Salim  can be really dangerous, too!

Ruby I'd like to get a scooter.  = freedom! But my mum thinks it's a bad idea.

Jessie You have to be very careful on a scooter, and always wear a  because some people drive very badly. My dad has stopped using his scooter because of bad car drivers.

Ruby Is he going to sell it?

Jessie I don't think so, but I can ask if you want.

Ruby No, don't worry.  My mum won't let me have a scooter. She says it's too dangerous.  Parents!



Buzzwords ...
sprain – distorsione

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e-Book Edition

ISBN: 978 0 19 411937 5 Magazine eBook

First published in 2020

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Commissioned photography by: Graham Alder/MM Studios pp.8, 9

Illustrations by: Adam Larkum/Illustration Web pp.16; Emmanuel Cerisier/
Beehive Illustration pp.14, 15; Fabian Slongo/Advocate Art pp.2; Jake Hill/
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