

MIKE RAMPTON

Mike is an author and journalist who lives in a nice village near Cambridge, England with his wife and daughter. He often has a pen behind his ear because he thinks it makes him look clever and busy, and he knows a very good song about dinosaurs. There's No Such Thing as a Silly Question is his first book for children.



GUILHERME KARSTEN

Guilherme lives in Blumenau, in southern Brazil. In 2010, he won a national contest for new children's book illustrators and has been illustrating books and receiving accolades ever since, including winning the *BookTrust Storytime Prize* in 2024, the *Jabuti Award* and the *Golden Pinwheel Grand Award*. Guilherme continues to seek ways to entertain and delight children all over the world through his art and stories. For Phoenix, who asks all the best questions, and is the answer to this one: "Who is the most-loved kid ever?"

-M.R.

For all my young readers, whose 'silly' questions ignite beautiful sparks of creativity in my own imagination.

-G.K.

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THERE'S NO SUCH THING AS A SILLY QUESTION

How do authors come up with ideas?

Ideas come in lots of shapes and sizes, but often begin with an everyday conversation. One day my daughter asked me, "Can spiders run out of web?" I realised I had absolutely no idea, but really wanted to know. Hundreds of questions later, here we are! MIKE





How long did it take to draw the pictures in this book?

Roughly a year and a half – wow, that's a long time! I wasn't drawing the whole time, I was also doing other stuff like eating breakfast, sleeping, and waiting for Mike to write more questions and answers so I could begin to draw them.

GUILHERME

Can I ask a SILLY QUESTION?

There's no such thing as a silly question. Well, there is, but only if the words in it don't make sense. "Dib a bib nib mib?" is a silly question, because it doesn't mean anything, but most questions about how the world works, or why things happen the way they do, are pretty sensible. As humans we've achieved the greatest things by asking questions and trying to figure out the answers.

It's easy to worry sometimes that asking the wrong question might make us sound like we don't know what we're talking about. But if nobody asked anything, nobody would know what they were talking about at all. Ask away! And, when you get an answer, ask some more!

Using this book couldn't be easier – just dive in. You can read it from start to finish, open it at random, or ask a friend to shout out a page number between 7 and 129 and see how quickly you can flip to that page and find out what's there.

If you are looking for information about specific things, there is a list of questions by subject on pages 134–137 and an index on page 138 to help you. There is also a glossary on pages 130–133 – any word in **bold** is explained there in a bit more detail.

> Any questions ...? Loads? Great!

> > BRUSH

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the giant armadillo, has a whopping 74 chompers. And fish and **reptiles** tend to have even more teeth!



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Plenty of animals have no bones at all – such as jellyfish, snails, slugs and shrimps – while sharks' skeletons are made of a tissue called 'cartilage' rather than bone.

However, all **mammals**, birds, **reptiles** and amphibians, and most fish, have at least some bones. Most mammals have around 200 (adult humans *usually* have 206 – a whole bone bonier than horses with a mere 205!), but reptiles and fish can have huge amounts.

Generally, longer creatures have more bones. Pythons can grow to 10 metres in length and have as many as 1,800 bones in total, with up to 600 vertebrae (bones that make up the backbone) and sets of ribs.

> The fullest mouths are so tiny you can only see them with a **microscope**. Sea slugs have thousands of teeth at any given time. The umbrella slug – with the pleasantly repetitive scientific name Umbraculum umbraculum – goes through 750,000 teeth in its lifetime. These grow on a tongue-like structure called a 'radula', the new teeth constantly replacing the ones which have been worn down scraping rocks for food.



Sharks are constantly losing teeth while hunting then growing new ones, often sporting multiple rows of razor-sharp gnashers. Requiem sharks go through about 30,000 teeth in their lifetime. One plant-eating dinosaur, *Nigersaurus*, had around 500 teeth, grinding them down and replacing them about every two weeks.

Requiem shark

nbrella sluo

How much space is there?

Short answer: loads. Longer answer: *looooooooads.* Space is measured in light years: the distance light travels in a year. And because light travels very fast, at 299,792,458 metres per second, one light year is a very long distance: 9.5 trillion kilometres, in fact. (If you walked in a straight line for an hour, you'd go about four kilometres.)

> The Milky Way is about 100,000 light years end to end, while the part of the universe we can see (called the 'observable universe') is around 93 billion light years across.

> Scientists aren't sure what is beyond that – maybe there's endless universe, stretching out forever. Or perhaps if you go far enough in one direction you somehow end up back where you started . . .

How much water would it take to put out the Sun?

If you're an evil villain trying to destroy everything, extinguishing the Sun might seem like a great idea. The bad news – good news for everyone else – is that a bucket of water, however massive, won't do the trick.

> The Sun doesn't burn like a bonfire. It burns by **nuclear** fusion, which doesn't require heat or oxygen (like a bonfire does) as much as it requires **pressure**. This pressure is provided by the Sun's own gravity, which in turn is caused by its enormousness. Throwing water on it would actually just make it bigger. Back to the drawing board, you rotter!

What happens 19 an astronaut takes off their spacesuit outside their spaceship?

> Very carefully. The last thing any astronaut needs is the contents of a toilet floating into their face. The toilet on the International Space Station, the Universal Waste Management System, cost a whopping 23 million US dollars to design and build, making it the most expensive loo in the known universe.

If you're floating in space and considering popping your spacesuit off, don't – however itchy your bottom might be.

> First, the lack of air **pressure** would make you pass out in about 15 seconds. The lack of **oxygen** would also cause the liquid on the surface of your body (such as the tears on your eyeballs) to boil away, which would really hurt, so with any luck that would happen after the passing out part. Oxygen would also be drawn out of your body, which would finish you off – your brain can't survive without oxygen for more than a few minutes.

Realistically you'd think "Whoops", then die. Keep it on and leave your bottom alone.

> How do astronauts go to the toilet?

Gravity is important when going to the toilet (we prefer things to plop downwards than upwards). So in a weightless environment, a bit of **suction** is necessary to get everything where it's meant to be. Carefully designed funnels and hoses are used, and the astronaut might choose to wedge themselves in a corner to stop themselves floating away.



Thousands of years ago, the ancient Egyptians began mummifying dead bodies – removing the organs, drying the bodies out and wrapping them in linen bandages. It was a long, expensive and difficult process, so it was usually only done to very wealthy or royal people.

The ancient Egyptians believed that there were three spirits inside every person, which survived after death. The 'ka' (life energy), the 'ba' (personality) and the 'akh' (soul) would go on living inside the dead body, which needed to be well looked-after in order to travel through the underworld and enter the afterlife. The whole mummification process was designed to try to preserve the body for as long as possible. And it worked! Thousands of years later, many mummies are in very good condition.

Are there any frozen cave-people we can defrost?

Yes and no. People are sometimes found preserved in ice from thousands of years ago, but they're very, very dead and there's no chance of them coming back to life. A man who became known as Ötzi was discovered in 1991, having been frozen since his death around 5,300 years ago.

Scientists were able to discover enormous amounts about his life using everything from the contents of his stomach to **chemicals** found in his hair. While they did defrost him, bringing him back to life was sadly not on the cards.

How did knights in armour go to the toilet?



With as much time to spare as possible.

Armour was designed to protect the wearer from their opponents' weapons, while allowing them to be as flexible as possible when fighting. Ease of going to the toilet was way, way down the list of priorities.

In Europe in the 1400s, a full suit of **iron** armour weighed about 25 kilograms – as much as an eight-year-old child – not as heavy as you might think, but fairly tricky to put on and take off. A knight could get it done in ten minutes with the help of two servants, which might feel quite slow if you were desperate for a wee.



When did people start living in buildings?

For a long time, there was no need for buildings, as people moved around a lot, hunting for animals and gathering plants and then moving on when they'd run out of food. Only when they started working out how to farm animals and grow crops did it make sense for some groups of people to stay put and build more permanent homes.

Jericho in the Middle East is thought to be the oldest walled city in the world. The first houses were built there around 10,000 BCE (over 12,000 years ago). They were originally round and made out of clay and straw, then over the next few hundred years people started trying different things, such as walls made of bricks. They also built ladders and stairs to get onto roofs, and arranged their houses around courtyards for cooking on fires outside. No toilets or tellies for a while, though.

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Why is pink for girls and blue for boys?

They aren't. There is no direct link between a person's favourite colour and their biological sex (which is whether they were born with a vulva or a penis). Before around 1850 most young children wore white dresses, so the washing could be boiled and bleached clean in one batch. Light, pastel-coloured clothing became popular when dyes improved enough not to wash out easily. A lot of boys loved pink.

> The idea that pink was for girls and blue for boys began in around 1900 as a way for shops to sell more clothes. Babies are born with no preference, but from birth we give them countless items (toys, blankets, books) that create these links from a young age.

> People living in isolated communities (without shops or TV) have been asked how they feel about colours, and don't associate any particular colours with boys or girls at all.



Normal vision



Red-green colour-blind vision

Red and white make pink, but blue and white just make light blue – huh?

This comes down to names – just as there's no clear definition of when a greeny blue becomes a bluey green, pink could easily be called light red. There are names for different shades of every colour – blue can be teal, turquoise, navy or dozens of others – and we've just decided at some point to treat pink as its own thing rather than a type of red.

Similarly, in some languages, blue and green are seen as different shades of one colour.

Do colour-blind people see in black and white?

Rarely. Usually colour blindness means that you have trouble telling the difference between certain colours. Colour blindness is generally caused by cones (part of the eye) not working properly. Your three types of cone respond to different coloured light. S-cones respond to red, M-cones to yellow and green, and L-cones to blue.

Occasionally one set of cones doesn't work properly. If your S-cones or M-cones don't work, you'll struggle to tell the difference between reds, greens, browns and oranges, which is known as 'red-green colour blindness'.

If your L-cones don't work, which is very rare, you might not be able to distinguish between blues and greys. Even rarer still is the condition 'achromatopsia', where you see no colour at all and perceive the world only on a scale from light to dark, like a black and white film.

Why aren't brown, grey or black in the rainbow?

Light moves in waves, and we can only see certain **wavelengths** with the human eye – the range from red to violet that appears on a rainbow and is known as the 'visible spectrum'.

Sunlight looks white but actually contains all the colours of the visible spectrum. When sunlight hits water droplets in the air, the water causes it to slow down and bend, which is what gives a rainbow its shape as well as its colours.

Colours that aren't on the spectrum, such as brown and grey, can be made by combining multiple colours that are. Black is a different matter – it's the colour created by no light at all.



A ladybird's spots tell you what type of ladybird it is (not how old it is, as some people think). They also tell other creatures to steer clear. Most of the time when it crops up in nature, a red and black (or yellow and black) colour scheme is a warning: *don't eat me or you'll regret it.* It's known as 'aposematic colouration'.

And the warning is there for good reason. Ladybirds' bodies produce a lot of **chemicals**, called 'alkaloids', which make them taste disgusting. When they feel threatened, they also have a response called 'reflex bleeding', where their legs release 'haemolymph' (the insect version of blood). Haemolymph is full of alkaloids and it smells horrendous to **predators**. The healthier the ladybird, the redder it is, and the more poisonous to anyone that eats it. While it's fairly unlikely anyone's going to offer you a bowl of ladybirds, if they do, you know what to say (no).



Do Spiders ever get caught in their own webs?

It would be pretty embarrassing for a spider, spending ages carefully building a web and then immediately getting stuck in it. Luckily for spiders, they're good at avoiding their own traps.

A web isn't sticky all over. Spiders can produce different types of silk, and will make sure their web is only sticky where it needs to be – giving themselves a non-sticky area to rest or move around on. They can also walk across webs while barely touching them – only the tiny hairs at the end of their legs come into contact with the web, and those hairs have a **chemical** coating that stops them from sticking. Not just eight legs – great legs!

Do bees sting other bees?

They certainly do, mainly to stop other bees taking their nectar.

Within a hive, different bees have different jobs. Guard bees are there to prevent unwanted intruders. When a bee tries to enter the hive, guard bees will sniff them with their antennae and, if they don't recognise them, it's often stinging time. Occasionally they sting their nestmates by accident.

Emerging **queen bees** will also often battle other queen bees, stinging them multiple times until they die. A royal rumble!

What are ladybirds' now old it is, eer clear. ack (or yellow

Why don't insects bleed when they're splatted?

Arthropods – a group of **invertebrates** which include insects, spiders and shellfish – don't have blood. Instead, they have a pale yellowy-greeny-bluey substance called 'haemolymph', which is pushed around their bodies by their hearts. Haemolymph is mostly water, but also carries energy and **chemical** messages around the body, helping the arthropod stay healthy.

There is one exception: mosquitoes. Not to gross you out or anything, but if you swat a mosquito and blood comes out, that's your blood. Absolutely appalling.





Why are there so many types of dog?

While a Pug and a Great Dane look like they have nothing in common beyond four legs and a face, all dogs belong to the same species.

The domestic dog, Canis lupus familiaris, came about after some brave soul befriended a wolf 18,000 years ago. People began keeping dogs for farming, security and friendship, and **bred** them to encourage certain traits. By pairing together two small dogs, or two loud ones, or two that were good in the cold, they could end up with exactly the kind of dog they needed.

Around the 1800s, people started breeding dogs selectively to create specific types and they made rules about which dogs fitted into different categories (called 'breeds'). There are now hundreds of different dog breeds – all the same species and therefore able to have babies together (sometimes very strange-looking ones!).





No shark will ever remember your birthday, tidy your room or make you a sandwich, but there are some that will. say, *not* bite your head off.

While shark attacks are rare, they're also extremely unpleasant. The great white shark, tiger shark and bull shark are responsible for most attacks, so they're off our nice list.

> Most shark **species** have never hurt anyone. Whale sharks, named because they're so enormous that people thought they were whales, have never attacked a human. They arow up to 12 metres long and their mouths open to 1.2 metres wide, but their teeth are tiny, and they live on small fish and plankton which they filter out of the seawater. They also have beautiful speckly markings. Nice!



When parrots talk, do they know what they're saying?

Sort of. In the wild, parrots learn to mimic, or copy, other parrots to alert them to **predators** or food, but in a house, they will mimic whoever is around – basically trying to join a flock. If a parrot says, "Hello!" when you walk into a room, it doesn't quite mean the same as a person saying it, but the parrot has made a connection - this noise means someone has come in.

Are there friendly sharks?

What do animals do if they need glasses?

Nothing – they don't know they need glasses. While animals can be both **short-sighted** and **long-sighted**, they're unlikely to have eye tests.

All **species** have different eyes, and different levels of visual accuracy. Animals with eyes on the sides of their head see very differently to ones like us, with eyes on the front. Interestingly, cats that live outdoors end up becoming long-sighted, and indoor cats become short-sighted. They don't need glasses though, which is a shame, as a cat in a little pair of specs is quite a sight.

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