

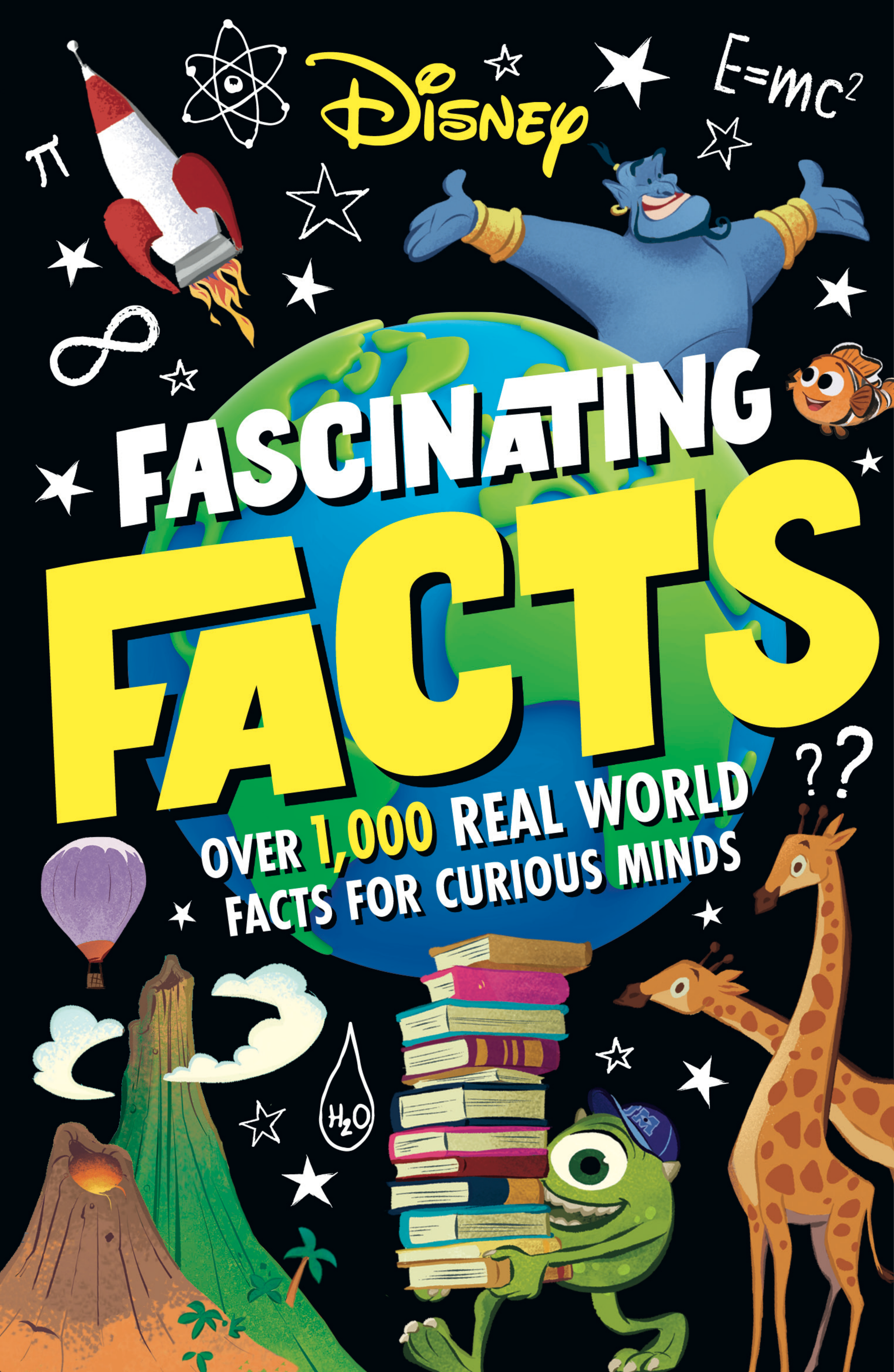
DISNEY

$$E=mc^2$$

FASCINATING

FACTS

OVER 1,000 REAL WORLD
FACTS FOR CURIOUS MINDS





Most fish have some sort of skeleton, but a shark doesn't have any bones at all.

Its whole skeleton is made of cartilage. This means sharks are very flexible and can twist themselves quickly to catch speedy prey.

Flying squirrels have flaps of skin that stretch from their front to rear paws. A flying squirrel can jump from a tall tree, then spread its legs wide to create air resistance as it falls. This force slows the squirrel down so that it glides instead of falling.

Earth's fastest land animal is the cheetah. It can run at bursts of 114 km/h, while the speediest creature in the sea is the sailfish. This super swimmer can reach speeds of 110 km/h.

Some animals can walk on water! Lizards called basilisks can run for about 4.6 metres before sinking underwater. Birds called western grebes also run on water during take-off. A combination of speed, webbed feet, and surface tension makes this feat possible.

An animal called the pistol shrimp has a built-in blaster. This little critter has one huge claw that it can snap with incredible force. The snap makes a blast of sound and heat strong enough to stun other animals. Syndrome from *The Incredibles* would be proud!



There are very few native land mammals in the Pacific Islands. In Fiji, the only native land mammals are bats. But what about Pua and Heihei from *Moana*? Pigs and chickens were brought to the Pacific Islands thousands of years ago.

Some types of flea can jump up to 200 times the length of their body! They have a powerful springy protein that they squeeze when their legs fold, ready to jump. When they stop squeezing it, the protein creates explosive energy that makes the legs spring forward powerfully.

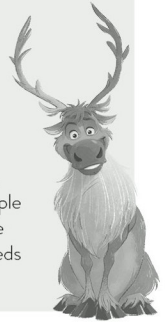


As well as reaching speeds of up to 96 km/h, the hummingbird is known for another fast feat. The tiniest species can flap their wings at a rate of 80 beats a second, or 4,800 times in one minute. And that's not all – their hearts can beat 1,200 times per minute too.

You might think that flamingos are pink, but those feathers are actually dyed. They eat a diet of blue-green algae and brine shrimp that contains a dye called canthaxanthin, which gives their feathers their pink colour.

Many animals have natural armour. The pangolin, for instance, is covered with hard, overlapping scales, while crocodiles are covered with bony knobs. Crabs and many other creatures have exoskeletons – where they wear their skeletons on the outside to protect the soft organs inside.

Lots of animals live in the harsh tundras of Earth. These include owls, foxes, wolves and reindeer. Foxes and reindeer have thick fur that protects them from the cold. Arctic wolves have fur on their paws that give them a better grip on the icy ground. Some animals, like huskies, even help people get around! These dogs are very strong and can pull sleds for a long time.



What do you think the world's deadliest animal is? The surprising answer is the mosquito. This annoying insect kills over 700,000 people a year by spreading diseases, such as malaria and yellow fever, when they bite.

THE ARTS: LITERATURE



The first 'books' that combined words and pictures, and were read by children, were Japanese scrolls from as far back as the 12th century.

Samuel Pepys was an inhabitant of London in the 17th century who became famous for the diaries he wrote between 1660 and 1669. His personal accounts of the Great Fire of London and the Plague helped historians understand the events of the period.

The author of *Le Petit Prince* (*The Little Prince*), Antoine de Saint-Exupéry, became a pilot during the First World War and rejoined the French air force when war broke out again in 1939. However, he went missing in 1944 while out on a mission.



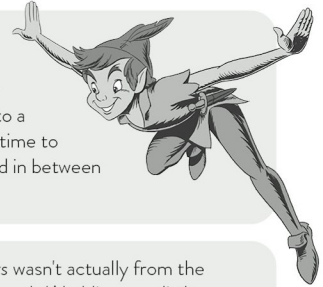
Beatrix Potter first wrote an illustrated story about 'four little rabbits' to cheer up a friend's child while he was recovering from a bout of scarlet fever. She sent him the story to help him feel better and continued to write letters to him for many years until she published *The Tale of Peter Rabbit*.

The fastest-selling book in history is *Harry Potter and the Deathly Hallows*, which was the last book in the series. It sold over 8.3 million copies on its first day and went on to sell more than 30 times that amount across the world, in over 60 languages.

Quentin Blake, best known for being the illustrator on the books of Roald Dahl, has been the artist on over 300 different books. More recently he's illustrated books for David Walliams, such as *Gangsta Granny*.

THE ARTS: LITERATURE

The villain of J.M. Barrie's *Peter Pan* wasn't meant to be Captain Hook, it was meant to be Peter Pan himself! It started as a play before it was turned into a novel, but the stage crew needed more time to change sets, so a pirate scene was added in between scenes and Hook became the bad guy.



Aladdin in *One Thousand and One Nights* wasn't actually from the Middle East. The story begins with the words 'Aladdin was a little Chinese boy', although the collection of stories does have lots of influences from the Middle East.

The Very Hungry Caterpillar came from a piece of office equipment! Creator Eric Carle was playing around with a hole-punch and a stack of paper when he had the idea for the story about the insect with a big appetite.

A.A. Milne, the author of *Winnie-the-Pooh*, was taught by another famous author named H.G. Wells, who wrote *The War of the Worlds*. However, at that time Wells wasn't a published author and was teaching a maths class.

The monster in *Frankenstein* has no name – the doctor who made the monster is called Frankenstein! However, there is a part where author Mary Shelley has the monster refer to himself as 'Adam' when speaking to the doctor.

The only book printed in Latin to make the *New York Times* Best Seller list is *Winnie-the-Pooh*. The book was completely translated into the dead language and released as *Winnie ille Pu!*



HISTORY: THE PREHISTORIC AGE

Pterosaurs, like pterodactyls, aren't technically dinosaurs – instead, they're 'flying reptiles' from the Mesozoic Era. Creatures that lived in the oceans during the same era, such as pliosaurus and plesiosaurs, aren't called dinosaurs either, but 'aquatic carnivorous reptiles'.



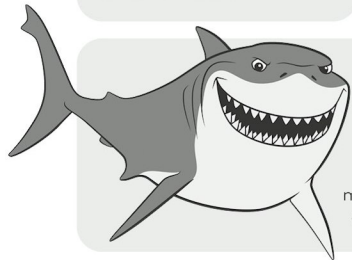
The Parasaurolophus was a herbivorous dinosaur that had a big, bony crest on top of its head filled with tubes. Scientists think that it 'blew' these tubes to make really loud sounds to communicate with other members of its group.

The spiky plates on the back of a Stegosaurus are still a mystery to scientists today. They could measure up to 60 centimetres, but nobody is sure what they did – some think they were used to cool the Stegosaurus down, while others think they were used to scare away predators.

The biggest difference between the size of a dinosaur and the size of its brain is found in the Stegosaurus. These herbivores were the size of a van, but their brain was comparatively tiny – about the size of a lime!

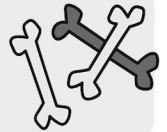
The Eoraptor is the earliest known dinosaur that we've found so far, dating back around 230 million years. Its name means 'dawn thief' because it existed at the dawn of the dinosaur age. An Eoraptor skeleton was first discovered in Argentina in 1991.

If you thought swimming in the sea was scary now, give thanks you weren't around in prehistoric times! The biggest fish in the sea was a relative of a shark called the megalodon, which measured more than three times the size of today's sharks.



HISTORY: THE PREHISTORIC AGE

Palaeontologists – the scientists who study dinosaurs – often make mistakes when putting dinosaur fossils together. In the 19th century, one of them put the thumb bone of an Iguanodon on the end of its nose, while another connected the head of an Elamosaurus to the end of its tail.



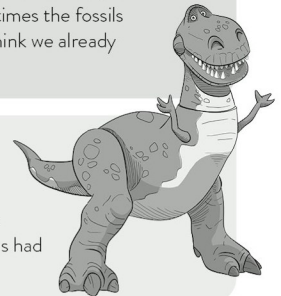
It's now widely accepted that dinosaurs weren't just the giant scaly lizards that we commonly think of – they were most likely covered in feathers! Some used them just for show, but others used them for warmth, or even to fly!



Not all dinosaurs were gigantic – one of the smallest known dinosaurs was the Microraptor and it would fit in the palm of your hand. It was a tiny carnivore that had feathers on its front and back legs that likely allowed it to glide around.

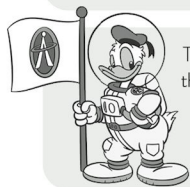
We're finding more dinosaur fossils now than ever before, at an average of one new species per week. Sometimes the fossils found by palaeontologists change what we think we already know about dinosaurs like the T. Rex.

By the time Tyrannosaurus rex – known as the 'tyrant lizard king' – was roaming the planet, the Stegosaurus was already a fossil. Though we often see the most famous dinosaurs together in fiction, the Stegosaurus had been extinct for millions of years!



The tallest dinosaur discovered is the Argentinosaurus, which was thought to reach a height of around 8 metres! It's also thought this dinosaur was the heaviest, estimated at around 82,000 kilograms – it would need to eat a lot to power that huge body after all.

The lower gravity on the Moon has a surprising effect on astronauts. When they're on the satellite, the disks of their spine stretch under the reduced pressure, which can make them up to 5 centimetres taller.



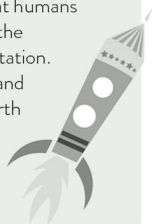
The footprints of the first man on the Moon are still there today. There's no atmosphere on the Moon, so there's no wind to blow them away, which means they're still there today and will be for millions of years, unless someone sweeps over them!

A mechanical phenomenon known as 'cold welding' occurs in space when two metals touch. Because there's no air or atmosphere around the pieces of metal, the molecules don't know that they're separate pieces and join together, without needing to be melted like they would on Earth.

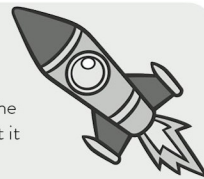
From Earth, we can spot six different galaxies, as well as our own Milky Way. The closest one is Andromeda, but we can also see the Triangulum, Omega Centauri and the Sagittarius Dwarf Spheroidal Galaxy, as well as both Magellanic Clouds.

You might be able to see a giant red spot on images of Jupiter – it's a giant storm that's been raging for years, but it's shrinking! When it was first observed in the 17th century, it was the size of three Earths, but now it's only the size of one.

The largest object that humans have sent to space is the International Space Station. It's 109 metres long and travels around the Earth once every 90 minutes at speeds of over 27,000 kilometres an hour.



Scientists have observed that our galaxy, the Milky Way, is spiral-shaped, but it wasn't the first one we observed. That honour belongs to the Whirlpool Galaxy, sometimes called M51. The M stands for Messier, as the first person to spot it was Charles Messier, way back in 1773.



The rain on Venus isn't made of water like on Earth – it's molten metals. The temperature on Venus is so hot that it can boil metals, turning them into gases, which then cool as they get higher up in the atmosphere and fall as scorching hot liquids.

Neptune was discovered in 1846 and is the furthest planet from the Sun in our solar system. As such, it takes 165 Earth years – or 60,190 days to be exact – for it to complete one orbit of the star. It has only orbited the Sun once since we've known about it!

The first person in space was a Russian called Yuri Gagarin. He reached space on 21 April 1961, beating the American Alan Shepard, who arrived on 5 May in the same year, by two weeks!

The estimated size of the Milky Way galaxy is 107,500 light-years, meaning it would take something travelling at the speed of light over 100,000 years to reach one end from another. With our current technology, it would take us 450 million years to travel across that distance.

The same side of the Moon is always facing Earth! We've never seen the 'dark side of the Moon' because the moon spins at precisely the same speed as it orbits the planet, which is a phenomenon called tidal locking, or synchronous rotation.

