Do you know why flamingos are pink? Why popcorn pops? Or how big infinity is? Scientists, physicists, mathematicians – and kids – have been asking these big questions for centuries. Now it's your turn.

Do you know the answers?

To play, simply:

Ask your partner a question and spend two minutes talking about what you think the answer is.

Turn the card over and find out if you're right.

It's that simple!
WHY CAN’T PENGUINS FLY?

Penguins are really big birds with really short wings. This makes it practically impossible to fly because they have to use so much energy. On the flip side though, their short wings are really good for swimming. So even though they can’t fly through the air, they sure can fly through the water.
WHY CAN’T ANIMALS TALK?

Animals actually can talk, although, mostly only to each other. Like dolphins who use sonar, or birds who use different pitches and calls, to chat. They can’t however talk like humans can, and that’s because we developed vocal chords and the ability to control our breath, as we evolved.
Honey starts out as the nectar of flowering plants. When a bee drinks it, it stores it in an extra stomach (called a ‘crop’) and it mixes with enzymes. Then, when the bee returns to the hive, it regurgitates it, feeds it to another bee who repeats the process until it’s passed through the hive to be stored in honeycomb. The bees then fan the honeycomb to evaporate some of the water, making thick, delicious honey.
HOW DO FISH BREATHE?

Like humans, fish need oxygen to breathe — and while there is oxygen in water, we don’t have the ability to filter it out. Luckily, fish do! They use gills which are feathery organs full of blood vessels. First, they take water into their mouth and force it out through the gill passages. As it passes over the thin walls of the gills, dissolved oxygen moves into the blood and travels to the fish’s cells.
Which came first: the chicken or the egg?

This brain-bender is easily decided by a few centuries of evolution. Before there was a chicken, there was a chicken-like bird who also laid eggs. One day, as the chicken-like birds were making more eggs, their genes mutated, and the first chicken egg was created. So while the answer might seem impossible – the egg came first!
WHY DO WE YAWN?

It’s definitely not because you’re bored, right? Scientists are still working it out, but it looks like we yawn to regulate the temperature of our brains. So every time you yawn, you’re actually cooling your brain down and helping yourself think clearer!
WHAT MAKES POPCORN POP?

If you want to make this delicious treat then you’ll need the right type of corn – only popcorn pops! The secret is that inside every kernel of popcorn, is a tiny drop of water. When the kernel is heated, the water turns to steam and eventually burst the kernel open. One popped kernel can grow up to 50 times its original size.
Bridges stay up thanks to maths and science. Contacts points like piers and columns, as well as beginning and end points (abutments), carry a lot of the weight for these huge structures. But what about all that weight in between? We’ve engineered arches, cables, and cross-beams to direct their weight towards these contact points, distributing the load.
Before telescopes were invented, astronomers used to count the stars in the sky with their eyes. On a clear night, and away from city lights, we can see two to three thousand stars. But now that we have telescopes, it turns out there are too many for us to count! So while there are 100 billion stars in our galaxy, there are also hundreds of billions of galaxies with billions of stars in them.
WHY DOES HAIR TURN GREY?

Each strand of hair on your head has pigment cells that produce a chemical called melanin. The more melanin, the darker your hair will be, regardless of what colour it is. However, as we get older, we lose pigment cells and have less melanin – so the colour lightens until it looks grey, white or even silver!
Stars don’t twinkle — they’re actually shining a steady beam of light. They look like they’re twinkling because the atmosphere — the air and gases around a star or planet — moves around a lot, bending the light up and down. So when the light reaches your eyes, it looks like it’s flickering.
HOW DO OWLS SEE?

In humans and owls, rod cells inside our eyes help us see in low lighting. Not only do owls have a very large number of these, they also have a structure called the tapetum lucidum. When light enters an owl’s eye, it hits the rod cells, hits the tapetum lucidum, and then hits the rod cells again. No wonder owls can see three times better in the dark than humans — they get twice as much light!
Why's the sky blue?

Light from the sun is made up of all the colours of the rainbow – red, orange, yellow, green, blue and violet – each with its own wavelength. Blue has the shortest wavelength of these that we can see and it gets scattered in all directions when it comes into contact with the particles that make up our atmosphere. That's how it makes the whole sky look blue.
How do cats always land on their feet?

To be honest, cats don’t ALWAYS land on their feet, but they do have special orientation abilities. In their inner ear, the vestibular system tells them where they are in relation to the ground, upside down or in motion etc, so when they start falling they can adjust their body orientation. Cats also have very flexible backbones which help – they have 30 vertebrae while humans have only 24.
WHY ARE FLAMINGOS PINK?

When they’re born, flamingos are actually grey but eating brine shrimp and blue-green algae changes their colour. These foods contain pigments called carotenoids which are distributed in their feathers, bill, and legs. So flamingos would be white or very pale pink if they simply changed their diet.
HOW BIG IS INFINITY?

Unlike the answer to this question, infinity has no end. It’s sometimes easier to define by what it’s not, rather than what it is; it’s not a real number, it can’t be measured, it doesn’t travel or get larger. Infinity is the idea of something that has no end – so if there’s no reason for something to stop, then that’s how big it is. It’s infinite.
Before SMS, MMS and Facebook Messenger, people used Morse code to send each other wireless text messages. Devised by Samuel F. B. Morse, each alphabet letter is represented by dots and dashes (short and long key ‘taps’). For example, E is a dot and, T a dash, so by tapping dots and dashes in the right order, you can send secret messages as electronic pulses over long distances!
WHY'S THE SEA SALTY?

Most of the salt in the seas and oceans come from rocks on land. When it rains, acidity in the water erodes minerals in the rocks and the dissolved salts get carried into the seas and oceans. What makes it extra salty is when water evaporates from the seas and oceans to fall again as rain – it leaves the salts the ocean.
Why is the moon out in daylight?

As the earth revolves around the sun, the moon revolves around the earth. Half of the time the moon is on the opposite side of the earth to the sun, when we see it at night. However, the other half of the time it's on the same side as the sun and that's when we see it during the day. So, it's actually out in the day as often as it is in the night!
Moths have very bad eyesight. That makes travelling around at night pretty difficult, but the moon has always acted as a source of direction for them. Before candles and electricity it was their only source of light, so they instinctively fly towards light because it would prevent them from flying into the ground. Now, there are 'moons' directing them every which way!