

## But Why: A Podcast for Curious Kids

### Chameleons, jellyfish and ballerinas! Check out But Why Bites

July 25, 2025

**Jane** 00:00

Hey, Jane, here for today's episode. We're doing something a little different. We're going to be listening to our online video series, But Why Bites. Every other week over on our YouTube channel, we answer one kid question in a short and sweet little video. You can find all of them at the But Why kids channel on YouTube, and we have a link to this compilation of episodes in our show notes. We're calling it a Big Bite. But if you're more of a listening kid, this episode is for you. We're calling it a Big Bite. Hope you enjoy it!

**Louie** 00:38

Why do people change presidents?

**Jane** 00:43

One of the big differences between the U.S. president and a king or queen or Supreme Leader is that the President doesn't stay in power as the leader of the country forever. A president can only serve two, four year terms. That's it. Well, technically, the president can only be elected twice, but they could serve a few more years if they're appointed first, like if the president they're replacing has decided to step down or has died while in office. But generally speaking, a president can only serve two terms. That's actually only been a rule since 1951. Before that, there was no official limit on how many times someone could be elected president. But after the first U.S. president, George Washington stepped down after two terms, it became kind of an unwritten rule. But then one guy named Franklin Delano Roosevelt was elected four times in the 1930s and 40s, and after that, an amendment was made to the Constitution making that rule about only getting elected twice. Now, the reason we have this whole president thing in the first place is because the U.S. was founded with the idea of democracy, that people have a right to choose their leader, not be ruled by someone who they don't choose. And if we elect someone new every four or eight years, the idea is no one can become president for life. I don't know about you, but there are a lot of things I'd like better than a president for life. How about ice cream for life? Or puppies for life? A lifetime supply of puppies! Now that's something I'd be happy to vote for. These dancers behind me are with the Dance Theatre of Harlem, and they're preparing for an upcoming show. Look at how strong and beautiful they are, and sometimes they look like they're dancing right on the tips of their toes. How do they do that?

**Harper** 02:40

Why do ballerinas wear ballet shoes?

**Jane** 02:45

Some ballet shoes are just simple slippers that help ensure a dancer doesn't slide on the stage when they don't want to. But often, when we think about ballet shoes, we're picturing pointe shoes that help a dancer dance right up on top of their toes. Toe or pointe shoes spelled P, O, I N, T, E, started being used by dancers in the 1800s they're designed to support a dancer's foot and take some of the weight of the dancer, allowing them to lift up onto their toes without crushing or breaking delicate foot bones. But it takes years of practice and building up of muscles before a ballet dancer can start dancing on point. Lindsey Donnell is a company dancer with Dance Theatre of Harlem. She's been dancing since she was three years old, but wasn't allowed to go on pointe until she was 11. What did it feel like when your teacher first said, Okay, you can dance on pointe.

**Lindsey Donnell** 03:42

I was so excited. It was a dream come true, because that is what I've been working for.

**Jane** 03:47

Why did you have to wait so long?

**Lindsey Donnell** 03:49

I had to train and build technique and muscle strength to make sure that my toes could support my whole body weight.

**Jane** 03:56

How long does a pair of pointe shoes last?

**Lindsey Donnell** 03:59

It depends on what we're doing, also sometimes the time of year, because when in the summer, when it's really hot and sweaty, they'll break down. I usually go through about two pairs a week.

**Jane** 04:10

So in the course of a year, that means you could be going through 100 pairs or more.

**Lindsey Donnell** 04:14

That's right.

**Jane** 04:16

But that being said, even the best shoes aren't making the dancer brilliant. That's all down to the strength and beauty of the dancer herself, so she can hop, pirouette and arabesque on the tips of her toes. If you're ever in the path of a total solar eclipse, the skies will darken like nighttime and stars will be visible during the day. But don't worry, you won't have to get your PJs on. A total eclipse only lasts for a few minutes. But why does the sun disappear?

**Camila** 04:52

What is a solar eclipse?

**Jane** 04:55

A solar eclipse happens when the moon moves between the Sun and the Earth. As the moon moves in its orbit, it will partially cover the sun for over an hour, until the sun is totally blocked. That's called totality. The sky will be dark and the sun's corona, the gassy atmosphere, will be visible. Totality can last anywhere from one to seven minutes, depending on where you are in the path. Then the eclipse will be partial for another hour or more again, as the moon continues in its orbit away from the sun. It's rare to have a total eclipse in any one place, so seeing one can be a once in a lifetime experience, and some people travel all over the world to catch one. If you're going to watch an eclipse, you need to protect your eyes. The bright light of the sun can damage them even while the moon is partially in front of it. So you have to wear something like these eclipse glasses. Once the sun is totally covered, it's safe to briefly remove those glasses and look up. You may see the sun's corona, but once the Eclipse moves back into partiality, it's important to put your glasses back on. If you don't have any eclipse glasses, that's okay. Try to get near a tree and look at the ground. The shadows of the sun passing through the leaves should make some really cool shapes. Coming up more But Why Bites. We'll be learning about jellyfish, cat whiskers, dolphins and chameleons. This is But Why: a Podcast for Curious Kids. I'm Jane Lindholm. We're listening to the Big Bite, a bunch of episodes from our YouTube series But Why Bites. Let's dive back in. An estimated 150 million people get stung by jellies each year. How can an animal that's 95 percent water, with no brain, be so venomous?

**Clinton 06:53**

Do all jellyfish sting?

**Jane 06:55**

All jellies can sting. They have cells called pneumatocysts inside their tentacles that release venom when touched. A single tentacle can contain thousands of pneumatocysts making for a very potent attack. If a small fish or other animal swims into the tentacles and gets stung, the venom paralyzes them, allowing the jelly to bring the fish up to its mouth and eat it. That venom also acts as the jelly's main defense mechanism. If you brush up against the tentacles, those pneumatocysts spring into action to protect the jelly. Jellies have no brain and no heart, and they're technically not fish. Although a few species can actively hunt, most jellies swim along with the current in the ocean, trailing their tentacles and waiting for something to swim into them. Some jellies are tiny, with a body the size of your thumbnail, while others, like the lion's mane jelly, can be eight feet across and have tentacles that stretch 100 feet. But most jellies are not dangerous to humans. In fact, you wouldn't even feel many species stings, but a few species are quite dangerous. So it's always a good idea to steer clear of jellies if you're not sure what you're looking at. And whatever you do, don't pee on a jelly sting. That's a myth, and could actually do more harm than good. Cats come in all shapes and sizes. Some are small and live in our homes, and others are large and live in the jungle. But there's one thing they all have in common, whiskers and not just for show, those bristly hairs have an important job.

**Bryce 08:42**

Why do cats have whiskers?

**Jane 08:46**

When I think of a cat's whiskers, I'm usually picturing the ones right here, but cats have whiskers in other places too, above the eyes, on the chin, on the fore, legs, near the ears and above the upper lip,

that's a lot of whiskers. Whiskers are thicker, stiffer and longer than most of a cat's fur, and they're more deeply embedded around the root of each whisker are nerve endings that can send a signal from the tip of the whisker right to a cat's brain. Whiskers help a cat sense its surroundings. They can sense not only the slightest touch, like a speck of dust landing near an eyelid, but even differences in air currents and air pressure so a cat doesn't have to be touching a piece of furniture or its favorite prey to know it's there. That's especially helpful at night, when many wild cats like to hunt for their food, whiskers help them essentially see in the dark. Most house cats have 12 whiskers on each cheek, for a total of 24. Lions have four or five rows of whiskers on each side of their face, and the top row has a different pattern, so researchers can use their whiskers like fingerprints to tell each lion apart. One more cool fact about these special hairs, cats whiskers have special sensory organs called proprioceptors that help a cat stay balanced. Who knew whiskers were part of the secret to why cats always land on their feet.

**Nancy 10:15**

Why do dolphins jump in the air?

**Jane 10:23**

There's lots of debate about why dolphins jump out of the water, but we know at least one of the things they do while they're up there, they grab a breath of fresh air. Like us, dolphins are mammals. That means, even though they live in the sea, they need to breathe air to survive. When they're under water, they hold their breath and they have some pretty impressive lungs. One species called rissos, or gray dolphins, can stay down for as long as 30 minutes. Other species have more like a 10 or 15 minute limit. Let's see how long we can hold our breath, ready? I guess I'm no dolphin. So when they jump, they can take that big, deep breath, and then they can peek at what's happening up above the water while they're there. Another reason they jump could be for speed. There's less resistance when you're flying through the air. If you see a dolphin shooting up out of the water really fast and then smacking down hard, it might be trying to get rid of a whale sucker, a type of fish that latches onto the dolphin's skin to eat parasites it finds there. That does sound irritating. And if you're saying to yourself that if you were a dolphin, you'd leap out of the water just for the fun of it, you might be onto something. Though, jumping does take a lot of energy. Scientists think dolphins sometimes do it just because they like it gives new meaning to the phrase jumping for joy!

**Jonathan 11:53**

How do chameleons change color?

**Jane 11:56**

You've probably heard that chameleons change color to blend into their background and hide, but new research shows they're more often adjusting appearance in order to regulate their body temperature or to communicate. Chameleons can't just match the pattern of any environment they find themselves in, and to be honest, they usually don't have to. They're already pretty well camouflaged. They can get a little lighter or darker, though, to better match their surroundings. And since lizards are ectothermic, meaning they can't regulate their own body temperature, they sometimes change their hue to help them absorb more or less sunlight, but their most dramatic color changes are saved for communication, to attract a mate or defend their territory. To make bold colors chameleons have special nanocrystals in

their skin that they can move closer together or farther apart by tensing and relaxing. Changing the positions of those crystals allows them to reflect different wavelengths of light, making them appear different colors. Wish I could do that! That's our last But Why Bite for today? If you want to see this episode and all the cool graphics that go with it, check out our YouTube channel But Why Kids. You'll find a direct link in the show notes. As always, if you have a question about anything, have an adult record. You asking it on a smartphone. You can use an app like voice memos, then have your adult email the file to [questions@butwykids.org](mailto:questions@butwykids.org) But Why is produced by Melody Bodette, Sarah Baik, and me, Jane Lindholm at Vermont Public and distributed by PRX. Our video producer is Joey Palumbo, and our theme music is by Luke Reynolds. If you like our show, please have your adults help you give us a thumbs up or a review on whatever podcast platform you use. We'll be back in two weeks with an all new episode. Until then, stay curious. You