

But Why: A Podcast for Curious Kids

Do Animals Get Married?

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[00:00:21] [Jane] This is But Why: A Podcast for Curious Kids from Vermont Public Radio. I'm Jane Lindholm. On this podcast, we take questions from curious kids just like you all over the world and we find answers.

[00:00:35] [Jane] This week, we're answering questions about how other animals think and feel and behave, and how those thoughts and feelings and behaviors are the same or different from humans. To help guide us through your questions is Alyssa Arre. She's a graduate student at a place called Yale University. But, she doesn't spend all her time in a classroom or even in a research lab.

[00:00:58] [Alyssa] For my job, I guess I study animal behavior, and I specifically, I just study monkey behavior. So I go out to an island where all the monkeys live and I watch how the monkeys behave and how they interact with each other, and try to make connections about how those monkeys interact with each other, with how humans interact with each other; to think more about how monkeys think about the world and what parts of how humans think about the world are shared with how monkeys think about the world.

[00:01:28] [Jane] Doesn't that sound cool? We thought her background would make her a perfect guest for today's show. Not only that, but Alyssa says she's really passionate about making sure kids in particular know they can do the kind of job she does, because she had no idea this was even a possibility when she was your age.

[00:01:45] [Alyssa] When I was a little kid, I loved animals so, so much and bless my mom, she just let me have everything in the house, just let me bring any animal. She is definitely a huge part, definitely fed into my obsession with animals, learning about animals. So I had all sorts of bugs and anything that I could catch outside in the house. It wasn't until I was a sophomore in college, I learned that people study animal behavior for a living.

[00:02:15] [Alyssa] That's their whole job. Now that's my whole job, and I think if I could have told my childhood self that I would have been so stoked.

[00:02:24] [Jane] Okay, here's the first question Alyssa is going to tackle.

[00:02:27] Hi, my name's Didi and I live in Tacoma, Washington and I'm five years old. My question is, do any kind of animals get married?

[00:02:43] [Alyssa] A lot of people ask me this question when I'm working, especially because I work with some of our closest living relatives, which are monkeys. People want to know, do the monkeys have relationships or if they have anything that looks like marriage? When you think about what marriage is, it's kind of an agreement between two people who, that they're going to raise their kids together, and that they're going to spend their life together. I think we do see some aspects of these things in other animals. So there's a lot of ritual in, or doing different sorts of behaviors and when you're trying to court someone, so there's like dancing and gift giving, and we do see that in some types of animals.

[00:03:28] [Jane] I'm going to pause Alyssa for a second here. When she says there are a lot of rituals in how animals decide to pair up, do you understand why that might be a similar thing to human marriage? A ritual is a set of actions or activities that people do the same way in a certain type of situation. So when people get married, they often follow rituals or traditions in their marriage ceremonies. Now there are all different kinds of marriages, but sometimes, for example, there's a first dance at a wedding where two people getting married dance to a song they've picked out that's meaningful to them. Or maybe a bride has her hands and feet painted in intricate designs with henna before her wedding. In some weddings, one or both members of a couple might stomp on and break a glass. Other times, a couple jumps over a broom as part of their ceremony. There are tons of different customs or traditions that people like to follow or not follow when they get married. But let's get back to non-human animals. Alyssa is noting that in many cases, different animals have rituals that they perform, like one or both of the animals who want to get together engage in dancing for each other, or one animal brings gifts to another animal. That's not marriage, but it is a way that the two animals pair up and decide to get together and have this sort of communication about what their relationship is going to be. Like with humans, there are a lot of different decisions that go into two animals deciding whether or not to get together.

[00:05:05] [Alyssa] In terms of marriage, the agreement to spend your life with someone, I think we do see that in a lot of animals. The term in animal behavior, it's called "monogamy," which means two animals that share the same space over some period of time. For some species, this will mean that they live together or raise babies together just for one year or one season. But there are some species of animals that live in pairs for their whole life. We see this most commonly in birds, and some birds you might recognize. So, for instance, some species of penguins like the emperor penguin, they are thought to mate for life or spend their whole life with just one other individual. Then there are some other birds that even I had to look up. So there's a bird called the hornbill that mates for life. The albatross is another bird that mates for life. Pretty uncommon in amphibians and reptiles, like snakes and salamanders and lizards, although it happens occasionally. Or fish, we don't really see it in fish that often either.

[00:06:04] [Alyssa] And then in mammals, it's pretty rare too. So humans are mammals, but also monkeys, dogs, cats, horses. We see it in one species of monkeys. They think that the monkey is monogamous for their whole life.

[00:06:18] [Jane] Again, monogamy means a pair or a couple that stays together. In many animals, it means that they have babies together, but don't mate or try to have babies with any other animal. Sometimes that just means for one season or one year. In some animals, they share a partnership for their whole adult life, or for many, many seasons or years. I think that's most similar to how people think of human marriage or partnerships. They often last for a very long time or even a lifetime, but not always. Human marriage is a very complicated thing and you should talk to the adults in your life about the values that your family holds around marriage. Marriage is often about love, but the actual act of marriage is a contract, a legal or a religious document that two people entering a marriage sign and agree to. Certain rights and privileges go along with that document. The government is sometimes involved. If you have a religion and you follow that religion, sometimes your religion is also involved. So it's pretty clear that other than humans, no animals sign documents and have actual official marriages. So the literal answer to Didi's question is no, animals don't get married. But marriage isn't the only way to love someone or to form a partnership. So another way we could ask about non-human animals and how they pair up is, do animals love each other?

[00:07:54] [Alyssa] In terms of love, it gets tricky because you break it down to something very boring and biological and not very loving at all. This is true when you speak to someone who studies what you would call “love” in humans too.

[00:08:06] [Jane] Because one way scientists study what love is, is by looking at human brains and the changes in our brains and our bodies when we say we're feeling love. So we don't actually know for sure whether animals feel love the same way humans do. For one thing, animals can't talk to us to tell us. There are so many variations of love. Love for your family, love for your friend, love for a romantic partner or someone you might want to marry or have children with, love for your favorite hot dog! I'm joking. That isn't really love. Or is it? But also what you think of as love and what I think of as love might be totally different in our brains. So scientists have to use research to make an educated guess, a hypothesis, about what animals might be feeling. So they study things like brain activity, of what kinds of hormones or chemicals in your brain and body change when animals or you do different activities or think different thoughts. They study those kinds of changes in animals to try to interpret things like, could an animal feel love or feel different emotions? There are many animals that get a surge of a hormone called oxytocin, sometimes called the “love hormone” or the “love chemical”, when the animals are doing something like cuddling or playing. We certainly have examples of animals doing things that look to us like love: caring for their babies, forming partnerships that look like friendships, maybe feeling very sad when another animal they've been with dies or goes away. Now, it varies from species to species. I don't think anyone has done experiments to see if slugs feel love. But people have spent a lot of time trying to figure out if elephants love their babies and if dogs love us. Again, while we can't say for certain that they do feel love, we know that for some animals, their brain chemicals signal that they're feeling something and that something looks similar to the brain changes in humans who are feeling love. So I guess the best we could say is, maybe animals feel love? Probably they feel something that feels like closeness or connection to each other? But here's a kind of similar question that I posed to Alyssa, do animals have friends?

[00:10:31] [Jane] I mean, a lot of animals live in social groups where they work together to survive and to get food, and to have maybe safety in numbers. We know that there are sometimes families of animals that stay together. But we humans would say that we have friends and we choose our friends based on how, you know, what we like and what our interests are. Do animals exhibit that kind of choice in other animals that they like to play with or hang out with?

[00:10:59] [Alyssa] Yeah, we definitely do see animal friendships. Lauren Brent is a researcher at the University of Exeter and she studies non-human friendship and social connections. I know at least in the species that we work with, a rhesus macaque, which is a species of monkeys, we do see monkeys choosing to spend more time grooming or being around certain individuals more than others that might be in their group. Oftentimes these are family members, but yeah, we definitely do see relationships in that way.

[00:11:28] [Jane] Coming up, we'll talk about whether or not animals laugh and cry.

[00:11:34] [Jane] This is But Why, a podcast for curious kids from Vermont Public Radio. I'm Jane Lindholm. Today, we're talking about animals and trying to figure out if animals feel the same emotions we do. Before we get to our next questions, I want to introduce you to a big word and a really interesting concept. The word is “anthropomorphization” or anthropomorphize. I'll say that again, in case it's a new word for you. Anthropomorphize.

The word comes from the Greek word Anthropos, which means human and morph, which means form. So the verb “to anthropomorphize,” basically means to give human form or human ideas to things that are not human. We humans do this all the time. We think of non-human things as having human characteristics or feelings. For example, when you think your cat loves you because she comes over and curls up on your lap, you're assuming your cat thinks and feels the way humans do. Now, everyone does this. It's a natural trait of being human. But one downside to anthropomorphizing other animals is that we then assume they think and feel the same way we do. That means we could kind of ignore or not learn about the remarkable ways they actually do behave, and think, and experience the world. We're too busy trying to fit them into a human box, rather than seeing how they might be very different in the way they behave and think and move than we do and are. So when we think our cat and dog who live in our house are friends with each other, we're putting our ideas of human friendship onto non-human animals. But we don't know what they're thinking about their relationship, or even if they think about their relationship at all. So as we continue this conversation today, I want you to keep in mind the ways that it's helpful and sometimes unhelpful to anthropomorphize other animals. Okay, let's move on. Here are two questions from Valla and Veronica.

[00:13:39] How do animals laugh and cry? (What's your name? Valla. And where do you live? Iceland. How old are you? Two.)

[00:13:46] Hi, my name is Veronica. I am seven years old. I lived in New York City. My question is, do animals cry?

[00:13:53] Valla in Iceland want to know how animals laugh and cry, and Veronica wants to know, do animals cry at all?

[00:14:03] [Alyssa] Hi Valla and Veronica. I spent a lot of time looking at whether animals cried because I was certain that the first answer I found, which was no, was not true. I was like, that could not be the case because we've all seen our dog look sad.

[00:14:18] [Alyssa] And I thought for sure that animals must express sad emotions in a way that's similar to us, but that's not the case. So while animals can produce tears, so they can do a behavior that looks like crying, it's mostly just to clear things out of their eyes. So you might have felt this too, if you ever got dust in your eyes or something. Your eyes instantly start to water. So animals do produce tears, but they don't cry in an emotional way. This kind of makes sense because animals are, they do have a different mindset about group living than we do. So our instinct when we see someone else upset is a comfort them and be there for them. We cry for all different reasons, but some of those reasons include if you're in a lot of pain, like maybe you fell down or if you feel really frustrated about something or are confused or something, you might cry. But for animals, revealing when they're in pain actually could be a sign of weakness. So often hurt animals will try to hide their injury and will try to keep up with the group and not lag behind.

[00:15:25] [Alyssa] So, I think if you think about how crying functions for us, it's a little bit different and we respond a little bit differently than how in other animals respond to animals that are hurt or in distress in some way. Although, you know, we're constantly learning new things about the animal experience. But to date, there's no evidence that animals cry. Now, laughter is a much different story and it's a happy story. I think the cutest example is in chimpanzees. So chimpanzees do something that primatologists, or people who study monkeys, refer to as laughing. It does sound a lot different from

humans. Very panty? Really cute. They do it in the same context that humans do. So they'll do it when they're playing or when they're being tickled.

[00:16:13] [Alyssa] The other example that I know of, of animals doing something that looks like laughter, you might not expect it but it's in rats. When you tickle rats, they make this very, very high pitched sound that you couldn't hear normally. But if you have a special microphone with the rats, you can hear the high-pitched sound. It sounds like a squeaky swing or something, it's very, very high pitched. Again, it doesn't sound like human laughter but the scientists who study this say that, you know, it occurs in the same type of behaviors as like play or tickling the human laughter occurs in. So maybe it's something like laughter.

[00:16:53] [Jane] Let's tackle language and cross species communication.

[00:16:57] My name is Charlotte. I'm nine years old. I live in Burlington, Vermont. My question is, do cats and dogs understand you when you talk to them?

[00:17:07] My name is Max. I'm six years old. I live in Boston, Massachusetts. My question is, why can't animals talk to us?

[00:17:18] Hello. My name is Penelope and I'm seven years old. I live in Charleston, South Carolina. My question is, why do animals speak a different language than we do?

[00:17:31] [Alyssa] So Charlotte said, do dogs and cats understand humans when you talk to them. Sadly, Charlotte, not that many people have studied cats at all. People are super interested in dogs. It's only recently that people started really looking into how cats interact with people. But from dogs, we know that the way that we act around dogs is definitely different than the way we act around other animals. A lot of times when you're talking to your dog, your natural caregiver kicks in and you use a special voice. It's really high.

[00:18:01] [Alyssa] You might say, "oh, you're so cute."

[00:18:03] [Jane] "You're such a good boy."

[00:18:04] [Alyssa] "How was your day? You want to go for a walk?"

[00:18:07] [Alyssa] But interestingly, what some scientists who study this have found, is that this kind of goes back to the stuff we talked about a little bit earlier with the bonding. We find that people also use this high pitched voice when they're talking to children and they're trying to teach them something. So the word for it is called "motherese," and it's that high pitched voice that you use when you're talking to a young child, and also often that people use when they're talking to an animal. Dogs do show from a pretty young age, a preference for this tone of voice over just regular, natural human speech. Dogs do respond to our human voice. When you're talking to your dog, it might turn its head or act excited, or wag its tail. It is hard to say what they understand about what we're saying. So even if you say to your dog, "sit," they might follow that instruction and sit down. But are they reacting because they understand we really, deeply want them to sit down in that moment? Or is it because- or "get off the counter"? I think that's I always have to yell at my dog about, like get off the counter!

[00:19:07] [Alyssa] Or is it because they've learned that when they sit, when you say that word, then they get a treat?

[00:19:13] [Jane] Alyssa says there have only been a few studies looking at whether or not animals can actually understand human language, like if they can put together a sentence and know what that sentence means. Mostly the studies that have been done, have been done with apes. Alyssa says that some apes have been able to put words in order to make what looks like a sentence, but that it's a little unclear about whether or not the apes really understand human language, and all the complicated ways that words and sentences fit together. Here's another interesting question.

[00:19:45] Hi, my name is Rosario and I live in Philadelphia, Pennsylvania, and I'm eight years old. My question is, do animals know what kind of animals they are?

[00:19:54] [Alyssa] Whether animals even recognize themselves, I think is definitely a point of disagreement. So whether they know like- if you look in the mirror, you could say, that's me, in the mirror.

[00:20:08] [Jane] Right, or if you see a picture, you know who you are in that picture and who everybody else is.

[00:20:12] [Alyssa] Yeah, that's a good point, too. We have pictures. We have all these sorts of ways of like capturing ourselves. Even if you saw a bad painting of yourself, right? You would think well, "I think that was supposed to be me?" So I think that's something really special about people. So we have a test to see whether animals know themselves, and it's called the mirror test, where they secretly put a mark on the animal's body or on its head or something. They see if the animal uses the mirror to find the mark or recognizes the mark in the mirror. I think there are a lot of criticism of that test, so it's not perfect. But that has traditionally been used as a task of self-awareness. Thinking about yourself in that way, like having an awareness of your body, in your arms and your legs. But whether animals know what kind of animal they are is complicated. I don't think anyone would argue that animals couldn't recognize other animals of the same species. So we see animals using all different sorts of cues to each other to be able to communicate information. So animals can recognize other members of the same species that look like them, that smell like them, that sound like them. So they use all these cues to communicate information to each other. But I don't know if a cat sees another cat and thinks, that is cat just like me, or if they just have a different type of reaction to a cat than they would to a dog, because the cat smells differently than the dog.

[00:21:36] [Jane] I think it's also so interesting, though, because we were talking earlier, Alyssa, about anthropomorphism and human ideas about what things are. So that sometimes colors how we behave as scientists and the kind of research we do, and what questions we ask that we don't even know some of the ways that animals might communicate with one another or what they might be thinking or feeling. And we don't even know to study it because we don't know that that's even a possibility.

[Alyssa] Yeah, absolutely.

[Jane] And I think, you know, for example, about some of the research that's been done on elephant communication and some of it that was at such low registers that humans couldn't hear it. It wasn't until we developed certain ways of being able to record sound that we realized that elephants might be communicating with one another over miles that we couldn't hear, and so we wouldn't know that kind of communication. So it's interesting to think about ourselves as humans and the limits to what we know about the animal world

and all of the magical and amazing ways that animals might be living and communicating that are different from us. If they could have this conversation, they might be saying, “do humans feel this thing that we feel, or say this thing?”

[Alyssa] I think if animals could talk, they would think we're super dumb.

[Jane] You do? You're think we're super dumb?

[00:22:50] [Alyssa] Yeah, I think we're so myopic. We see only one way of doing everything, especially with other animals. I do think often we get caught up in making sure the animal thing matches exactly how we do it. I mentioned the rat tickling earlier, where that was a pretty recent study and people only, like, they had to have special microphones to even hear the sounds, I think? Yeah. The points you bring up are, animals have these different senses and different experiences that we're not even aware of, is definitely true. So that they communicate with each other in ways that we just don't understand. Yeah, I think it's true. We're in a kind of an exciting time where we do have technology and people who are beginning to understand this. My brain is just like suddenly flooded with all the cool ways that animals can use the natural environment that we just can't. There are some animals, including species of birds and then some marine animals that can sense a magnetic field. Imagine that you could walk outside and you just have a compass built into your body, basically, and you always knew where North was, and where your position was relative to your house, and where you find your food? So there are some animals that can do that naturally. There are some animals that see colors that we couldn't even imagine, so the mantis shrimp, for instance, can see more colors than people can. A spectrum wider than humans, which I can't even think about.

[00:24:13] [Jane] Wow. Don't you wish you knew what it was like to see colors beyond our imagination, beyond what the human eye is capable of seeing? Or to be able to use odor the way some animals can, to identify a family member just by their smell? There's still so much to learn about the way animals think and the way they're like and not like us. That's what researchers like Alyssa Arre are trying to do. Thank you so much to Alyssa and to the Comparative Cognition Lab at Yale University. That's it for this episode. If you have a question about anything, have an adult record it. They can send the file to questions at But Why kids dot org. I've said this before, but we have way more questions than we could ever answer. But we do listen to all of them, and we love hearing your voices. Knowing what you're curious about helps us shape our episodes, even if we don't get a chance to use your voice. We get a sense of the kinds of things you might want us to talk about on this podcast. You know, we're always happy to know what you think is working or not working about the show, that goes for both kids who are listening and adults. So let us know if you think we should do something differently, or even if you just like what you hear. Every now and then, one of you sends us a picture of how the show inspired you or what you've done since listening to an episode, and I can't even express how much that means to me and Melody. So send anything you want to our way questions at But Why kids dot org.

[00:25:45] [Jane] But Why is produced by Melody Bodette and me, Jane Lindholm, at Vermont Public Radio. Our theme music is by Luke Reynolds. In this episode, we want to say thank you and goodbye to two friends who have really helped us on this podcast over the last almost four years, Jonathan Butler and Meg Malone. Jonathan is leaving VPR to go to work at a job at NPR in Washington, and Maggie is going to get a degree in Library Sciences. One area she particularly likes to focus on is young adult books. So let us know

if you need us to ask her for a good book recommendation. We're really going to miss their friendship and their help on this show, but we are very excited for their new adventures.

[00:26:26] [Jane] Have no fear, though. But Why is not going anywhere. We'll be back in two weeks with an all-new episode. Until then, stay curious.