mystery science

Grades K-5
Mini-Lesson: “Why can't we remember being babies?”

VIDEO TRANSCRIPT

Hi, it's Doug. This is Nischal Narayan, who set a world record for remembering things. At 11 years old, Nischal was able to memorize 225 totally random objects on a table, even the order they were in, after only studying them for 12 minutes. Incredible!

Someone named Jessica has a question about memory. Let's give Jessica a call now.

[Video Call]

- Hey, Doug.

- Hi, Jessica.

- I have a question for you. Why can't we remember being babies?

- Oh, that's a great question.

You can remember the words to your favorite songs. You can probably remember what you had for lunch yesterday. You might even be able to remember some of the lines from a movie you saw last year, but when it comes to being a baby—nothing.

Think about it for a second. Can you remember saying your first word or taking your first step? Can you remember what you did on your first birthday? Now, some of you might think you can, but keep in mind you've probably seen pictures or even watched videos of these things, and

most scientists who study the brain, and how we remember things, think that human beings cannot actually remember when they were babies.

For example, on your first birthday, can you really remember on your own some of the other different things that you did that day? The sounds, the smells, most people would probably say no. It seems that almost everyone has trouble remembering the time when they were babies. So why is that?

Before I go on, I'm curious. Why do you think we can't remember things that happened when we were babies?

Now, I don't know how you answered this, but maybe you said that babies are too little, so their brains are still growing, and that makes sense. Babies' brains aren't fully grown yet. Maybe your brain has to be fully grown in order to remember things.

But wait a second—Is it really true that babies are not able to remember anything?

I mean, think about this. Whenever a parent or a caregiver in their life leaves the room but comes back, babies can remember their faces, and they remember their names, and they can remember skills they learn too, like how to hold a bottle or a spoon. And later, they can even remember how to say words they learn, like *cat, or toy,* or *mine.*

So the idea that babies literally can't remember anything because their brains aren't fully grown yet—well, there must be something more going on here, because babies clearly do have the ability to remember some things, at least as babies. And when we're older, we can still remember most of the names and faces and skills that we learned when we were babies.

Well, scientists who have studied this have noticed a pattern. It's true that babies do remember names and faces and skills—no problem, but there's another kind of memory that it seems like babies can't remember: memories of things that happened, events, things that we later tell as stories.

For example, we can't remember exactly what happened when we had our first ice cream cone, or accidentally ate a bug, or climbed up on a table and bumped our head. We may have seen pictures or videos of these things happening, and maybe we've even heard our parents or grandparents or older brothers or sisters tell these stories about when we were little.

But each of us ourselves can't remember the exact smells, and sounds, and sights, from these events. Even though we were there, it's almost like it never happened.

So, why can't babies remember the story-type of memories?

Scientists aren't totally sure, but some of them think it might have something to do with words. Think about it. When we remember something, like a birthday party or a game we play with our friends, it might be that we need words to remember those stories in our heads. And we definitely use words to share those memories with other people.

But imagine if you didn't know any words yet, like a baby. Then it would be pretty hard to replay that story in your head and it would be really hard to share those memories with friends. So this is one idea about maybe why most people don't remember things that happened to them before they were the age of three. Because before that time, they probably didn't know enough words to make stories in their heads and share those stories.

The idea of needing words to make memories makes a lot of sense, but scientists who study memory are still puzzled about something—*animals.*

Animals don't use words just like human babies who can't talk yet. And those animals that do seem to know some words when we use them usually don't know that many.

- Sit. Good boy.

But scientists who've studied the memory of animals like mice and dogs have discovered that many animals can remember events that happened to them—even though they don't know how to say any words at all.

Like, for example, a dog who can remember a trip to the vet that he didn't like. So the next time you take him, he doesn't want to get out of the car.

So, if animals can remember these story-type memories even though they don't know how to talk at all, one idea scientists have is that maybe babies can remember the stories that happened to them too—but it's just that they don't remember these stories for very long.

We do know that our brain doesn't store every memory we have forever. Every time something happens in our lives, it seems that our brain keeps it for us so we can remember it later, at least for a little while. And each day it collects more and more and more memories.

But just like a backpack can get too crowded with stuff so that we can't find things in it anymore, it would seem that our brain can get too crowded with memories.

Scientists think that when that happens, our brain somehow has some way of sorting out which memories are important enough to keep—and which memories to throw out.

For example, your brain might keep the memory about where your classroom is because that's really important, but it will forget the color of the Popsicle that you ate three months ago because you don't really need to remember that.

Now, think about babies. A baby has a ton of important things to remember—like walking, talking, eating, not falling down, not bumping into things. So many important things to remember. The list goes on and on.

So some scientists are starting to think that babies' brains are so busy remembering these important things that maybe remembering stories like the first time they had ice cream isn't all that important, so their brain throws those kinds of memories out.

Scientists are only beginning to understand why we can't remember being babies, but they think that not knowing words and only needing to remember important things might have a lot to do with it.

That's all for this week's question. Thanks, Jessica, for asking it.