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

VIDEO TRANSCRIPT

MINI-LESSON VIDEO 1

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?

MINI-LESSON VIDEO 2

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. This week, we have a special activity. Remember Nischal Narayanam, the memory champion? When Nischal was 11 years old, he memorized 225 random objects and then repeated them back in order. Wow! So, was Nischal just born with an amazing ability to remember things? No, he spent years practicing memory tricks, and he thinks that everyone can get a better memory with the help of the tricks that he

uses. In today's activity, we'll show you a trick that you can use to memorize all kinds of things, just like Nischal does. So check it out if you have time. Stay curious, and see you next week!

ACTIVITY INTRODUCTION VIDEO

In today's activity, you're going to play a game called Memory Master. Winning the game is easy. All you have to do is remember what you see. Take a look at these three pictures for 15 seconds and try to lock them into your memory. Ready, set, go! You're looking at a bee, cherries, and socks. Now I'm going to take the pictures away and ask you to remember these three things. Here we go. The pictures are gone. Can you remember what they were? Here they are again. Did you remember them? Great! If not, don't worry. You're going to learn a trick that will make it easy to remember three things, five things—or even 10 things. You can use this same trick to remember anything whether it's the stuff you need to take to school or a list of vocabulary words for class. We'll show you how to get started, step by step.

ACTIVITY STEP 1

Get your supplies. You need paper and a pencil. When you're done with this step, tap the arrow on the right.

ACTIVITY STEP 2

Here are three things to remember: a cat, a hat, and a fish. Do not write them down just yet. This part is about remembering, not taking notes. When you think you can remember them all, go to the next slide.

ACTIVITY STEP 3

Now use your paper and pencil. Write the name or draw a picture of all of the things that you can remember. Can you remember all three? If you draw, your drawing can be very simple—it doesn't have to look like ours did.

ACTIVITY STEP 4

Here are the three things we asked you to remember. Don't worry if you didn't remember them all. The next slide tells you a useful trick that will make remembering them easy.

ACTIVITY STEP 5

Maybe you tried to remember by repeating the words like this: *cat, hat, fish, cat, hat, fish.* But you can only remember a few words that way. To help us remember, we made up a very short story. My cat likes to wear a hat, and watch my pet fish. We thought of a picture that showed our story. Here's another story. The cat was surprised when a fish jumped out of a hat. If you think of that picture, it's easy to remember—cat, fish, and hat. You can make up any story. You can put the things you want to remember in any order.

ACTIVITY STEP 6

Now that you know our trick, try this challenge. Here are five things to remember: a flower, a rabbit, an ice cream cone, a pair of pants, and a scarf. Make up a story with all five things in it, and imagine a picture that shows your story. Don't write or draw anything just yet—just use your

imagination. If it helps, you can talk out loud and tell your story. When you're ready, go to the next slide.

ACTIVITY STEP 7

Now use the paper and pencil. Write the name or draw a picture of each thing you remember. Can you remember all five things? If you can't remember them all, that's okay. With practice, you'll get better at making up stories and imagining pictures. When you are done, go to the next slide.

ACTIVITY STEP 8

Here's our story. I once met a rabbit that was wearing pants and a scarf. The rabbit was eating an ice cream cone. I said I didn't know rabbits ate ice cream. I thought they ate flowers. Did you remember all five things? If you did, you're doing better than most people. The average person can only remember three or four things. A story helps you remember more because it connects the things you're trying to remember. Once you think of one thing, the story helps you remember the rest.

ACTIVITY STEP 9

This is when it gets really hard. Here are seven things to remember. That's a lot! There's a balloon, a bus, a drum, a duck, an elephant, a party hat, and a trumpet. Can you make up a fun story that has all of these things in it? Don't write or draw anything yet. Just imagine a picture that shows your story. Take your time and think it through. There's no rush. When you're ready, go to the next slide.

ACTIVITY STEP 10

Now use the paper and pencil. Think about your story. Write the name or draw a picture of each thing you remember. Can you remember all seven things? If you can only remember a few, that's fine. With practice, you'll get better at making up stories and remembering them. When you're done, go to the next slide.

ACTIVITY STEP 11

Any story that connects all of the pictures will help you remember them. Here's our story. The elephant could not fit inside the bus, so it rode on top, wearing a crown made of balloons and playing a trumpet. Its friend, the duck, beat on a drum and wore a party hat. Everybody danced when the bus drove by. If you manage to remember all seven things, congratulations—you're doing much better than most people!

ACTIVITY STEP 12

You can stop if you like, but if you want to try a super tough challenge, here are ten things you can try to remember. If ten seems like too many, just try to remember five. There are five in the top row, a banana, eyeglasses, a hammer, a monkey, and a cookie. There are five more in the second row. Scissors, an owl, a spoon, a teapot, and a mouse. Take your time and make up a story with as many things as you can. Don't write or draw anything yet. Just imagine a picture.

ACTIVITY STEP 13

Now use your paper and pencil. Write the name or draw a picture of each thing that you remember. There were ten things, and that's a big challenge. But take your time. Think about

your story. You may be surprised at how many you remember. When you're done, go to the next slide.

ACTIVITY STEP 14

Did you make up a story with all ten things in it? Here's our story. When Owl had a tea party, everything went wrong. Mouse got stuck in the teapot. Owl tried to get Mouse out with a spoon and a hammer. There was only one cookie, so Monkey put on Owl's eyeglasses and used the scissors to cut the cookie in half. Monkey ate all of the bananas.

ACTIVITY STEP 15

You've finished the activity and you're on your way to having a great memory. You'll get better with practice. You can make up a story about things you need to bring to school, or stuff you need to buy at the store. You can stop here. Your brain might be a little tired, but for anyone who wants to keep practicing right now, We have some practice slides. You can start by remembering five things, then add on five more things. And finally, add on five more to make fifteen things to remember. Have fun, and stay curious!