mystery science

Grades K-5
Mini-Lesson: “What’s the longest anyone’s ever stayed awake?”

VIDEO TRANSCRIPT

VIDEO 1

Hey, it's Esther! Have you ever slept somewhere different than where you usually do like during a sleepover at a friend's house or maybe in a tent while you were camping? How about on the side of a mountain? These pods kind of look like spaceships, but they're actually bedrooms hanging from the side of a cliff. Whoa! They're part of a hotel in Peru, do you think you could fall asleep there? Okay, if you're a little scared of heights, you may like this bedroom better. This is a hotel made entirely of ice, even the bed is made from a block of ice, you would need lots of blankets to stay warm and get a good night's sleep here. Someone named Connor is curious about sleep, let's give Connor a call now.

[Video Call]

- Hi, Esther!

- Hi, Connor!

- I have a question for you. What is the longest anyone has ever stayed awake?

- Ooh, that's a great question.

Okay, have you ever tried to stay awake when you were really tired? It's definitely not easy. I remember I really wanted to see "Lord of the Rings" on the first day it came out, but the problem was the movie started at midnight. I tried so hard to stay awake with my friends, but I just

couldn't do it, I fell asleep right there in the movie theater and missed the whole thing, it's kind of like my body was saying, "You're going to sleep whether you like it or not." Before I go on, I'm curious, what's the longest you've ever stayed awake? What did it feel like? Now would be a good time to pause the video and discuss.

VIDEO 2

I don't know how you answered, but some of you might have stayed up past midnight on New Year's Eve. Or maybe you even stayed awake even later at a sleepover party. Whatever it was, you may have felt kind of weak by the end or maybe you couldn't really concentrate. Maybe you even felt a little sad or grumpy. That's because your body needs sleep. Scientists aren't totally sure why, but we know that sleep makes us feel more rested and gets us ready for the next day. Sleep is really important, and a lot of things can happen when we don't get enough of it. Just ask Randy Gardner. When he was in high school, he was really curious about what would happen if humans didn't sleep. In fact, he and his friend were so curious that they decided to try and break the world record for staying awake for a high school science fair project. That meant one of them would have to stay awake for more than 11 days. The two of them flipped a coin and they decided that Randy would be the one to stay awake and his friend would make sure he didn't fall asleep. After a few days, another friend came to help. They took turns talking and playing games like basketball with him whenever he felt like dozing off. When scientists heard about the experiment, they were curious about what would happen to Randy if he kept staying awake. So one of them drove hundreds of miles to study Randy in person. Since so few people had stayed awake for long, he thought he could learn a lot from the experiment and this is what he noticed. After a few days of not sleeping, Randy started having trouble concentrating. He

couldn't even repeat a simple tongue twister, like, "Peter picked a peck of pickled peppers," and had trouble doing math problems. Oh, and he started getting really grumpy, especially when people reminded him to stay awake. He even started having trouble hearing, and tasting, and smelling. After four days of no sleep, Randy started hallucinating, which is like dreaming while you're awake. He thought lampposts were people and thought he was a football player in the NFL. By day 11, Randy's body really needed sleep and he could barely even answer when his friends talked to him. Overall, Randy ended up staying awake for 264 hours. That's the longest scientists have recorded anyone staying awake. After Randy's experiment, other people tried to break the staying awake record, like a woman in England who people say stayed awake while rocking in a rocking chair for more than 18 days. So who holds a record for staying awake the longest? Is it Randy, the high schooler who was studied by scientists? Was it the lady in the rocking chair who was actually rocking for 18 days? While it turns out, this isn't an easy question to answer because it's really hard to be sure if someone's actually awake or asleep. It might seem obvious, but it's actually not. The only way you can really tell if someone is awake or asleep is by using a special machine called an EEG. An EEG measures your brainwaves, kind of like a heart monitor measures your heartbeat. After Randy's staying awake experiment, scientists studied his brain with one of these machines, and they discovered that he probably wasn't awake for 11 days. In fact, they aren't sure how long he stayed awake. Scientists now believe that parts of Randy's brain were taking mini naps, even though his eyes were open and he looked awake. When someone's brain sleeps like this, it's called microsleep. It's almost like being awake and asleep at the same time. I'm serious. Your eyes can be open and you can be moving or even talking, while parts of your brain are taking a quick nap, and that's why it's not easy to tell if someone is asleep or awake. You may have experienced microsleeps yourself while watching a movie or even sitting up in class. The thing is, people don't usually notice when

someone's taking a mini nap like this, not even scientists. So what's the longest anyone's ever stayed awake? We may never know the answer to this question. In fact, the Guinness Book of World Records doesn't even keep track of the staying awake record anymore. They even took it out of their books. They don't want anyone trying to break that record anymore because staying awake for too long could be harmful to our bodies. When we try to stay awake for too long, we can have trouble thinking, listening, tasting, and even smelling. How weird is that? Sleep is so important that when your body really needs it, you can't stop parts of your brain from taking little naps, even if you look awake to everyone else. And when that happens, it's definitely time to get some rest. That's all for this week's question. Thanks, Connor, for asking it!