mystery science

Grades K-5
Mini-Lesson: “What were the first computers like?”

VIDEO TRANSCRIPT

Hi, it's Doug. A friend of mine knows someone who works at a computer company, and they gave me this. Can you guess what it is? It's part of a computer chip or processor. It's kind of like the brain inside of a computer. It's the part that helps the computer do work and remember things, and under a microscope, this looks beautiful. Check it out. Doesn't it look like a picture of a colorful city taken from way up in the sky? Any computer you use at school or at home has at least one or two of these things inside of it. Someone named Josie has a question about computers, let's give Josie a call now.

[Video Call]

- Hi, Doug!

- Hi, Josie!

- I have a question for you. What were the first computers like?

- That's a great question.

And, here's the answer. Now, this probably isn't the type of answer you were thinking of, but believe it or not, the very first computers were actually people. For hundreds of years, people who computed or solved complicated math problems were called computers. That's what the word used to mean. It was a person's job. These human computers did everything from figuring out how many engines a plane needed to fly to getting rockets into space like Katherine

Johnson did. Her math computing skills helped land the first astronaut on the moon, and the story of her life is featured in the movie "Hidden Figures," which is a great movie. Definitely check it out, if you haven't already seen it. Okay, but I know that, wondering about what the first computers were like, you're probably most curious, not about human computers, but about the type of computers that we use to play games, do schoolwork, or watch videos on. What were those first computers like? Before I say anything more, I'm curious. What do you think the world's first computers were like? Now would be a good time to pause the video and discuss. Okay. You ready? Have you had to do a really hard math problem, like maybe a word problem with a lot of steps? If you did, you probably know that some problems are really complicated and take a long time to solve without help. And the same goes for these human computers. Even though they were really good at math, some problems were just too long or too difficult for them to easily solve on their own. So scientists wondered, could they invent a machine that could help human computers solve math problems? After hundreds of years of trying, inventors finally came up with these, some of the very first electronic computers. They didn't have screens like our computers. They didn't really have keyboards and they were big, I mean really big, like this one. This is the ENIAC, one of the first computers ever invented. It was so huge that it took up an entire room and it weighed a lot too, nearly 30 tons. That's about the same weight as 60 grown polar bears. These first computers weren't only huge, they were expensive, so expensive that only large businesses or universities could afford to buy one. And they weren't all that fun either. Computers like ENIAC were actually just giant calculators that helped people solve really complicated math problems. So you couldn't video chat with friends on them, you couldn't watch videos on them, you couldn't even take them home to play games on. All these computers could do was math. But then computers like these came along. Computers like the Apple II were called home computers because they were small and they were a lot cheaper. Eventually cheap

enough for some families, not just businesses to buy and use in their homes. But even though these new home computers had screens and keyboards, just like the computers we use today, they weren't quite the same. Like, take a look at this game. This is Zork I, one of the first-ever computer games. Notice anything different from the games we play now? See how there are no pictures? That's because some of the first games didn't have any graphics or pictures, they just had words. Playing a game was kind of like reading a story. To tell a character what to do, players would type in words like *pick up treasure* or *throw rock*, and then new words would appear, telling you what happened next. Now, games like Zork I may not look like that much fun to you or to I, but they were new and exciting back then and kids loved them. And adults were excited about these new computers too but for a different reason. See, before home computers, people did a lot of writing. They'd write reports for work and school, they'd write letters to their friends and they had to do it all with a pen and paper or on a machine called a typewriter. That could take a long time and if you messed up, you might have to start all over. But see this button? To people who bought the first home computers, this button seemed like magic. Now you didn't need to use an eraser or have to throw your page away and start all over. If you messed up, you could just hit the button, and poof, your mistakes would disappear. Each year, these home computers became more and more popular and they got better too. Since the time of the Apple II, computers have gotten smarter, and easier to carry, and more useful than they'd ever been before. In fact, one of the biggest advances of our time is that we now have computers that fit in our pockets. You might think of smartphones as just smartphones but they're actually computers with a touchscreen on them that are small enough to fit in your pocket.

So in summary, electronic computers were invented to help solve complicated math problems but since then, they've become so much more. From giant computers as big as a room to home computers that could fit in your house, computers have become an invention that we rely on every day for fun, for school, and for talking with our friends.

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