mystery science

Grades K-5
Mini-Lesson: “Is there a pole at the North Pole?”

VIDEO TRANSCRIPT

Hi, it's Doug! You've probably noticed that one of the most fun things you can do with a globe is this right here—spin it, right?

Well, someone named Elizabeth has a question for us this week about a very special place on the globe—this place, right there. Do you know it? It's the North Pole. Let's give her a call now.

[Video Call]
- Hi, Doug!
- Hi, Elizabeth!
- I was wondering, is there an actual pole at the North Pole?
- That's a great question.

We can figure this out by looking at a picture from the real North Pole. People have actually traveled there. Let's see what it looks like.

Are you ready? Here it is.

Now, you can see there's a lot of snow and ice. The North Pole, as you probably know, is a very cold place, but there's no pole anywhere to be seen. It's just snow and ice. There's not an actual pole there, but that leaves us with another question: why call the North Pole a *pole* at all if there's no pole there?

You might know we actually have two places on Earth with the name *pole* in them, the North Pole and the South Pole. So why is that? What's special about these places such that we call them both poles?

Take a minute to look at a globe, if you have one. If not, you can look at this globe in the video.

What do you notice about the poles? Now would be a good time to pause the video and discuss.

Okay. You ready?

If you've heard that the Earth spins once each day, you might have noticed: the poles are the two points that the Earth spins around on. You see, the Earth doesn't spin any which way. It only spins like this. It's kind of like a spinning top that can only spin on this little point.

You see, it's as if there's a pole that goes through the Earth from the North Pole to the South Pole. I can demonstrate this with this squishy Earth ball. If this is the Earth, then it's almost like there's a pole through the Earth—like this.

The Earth spins as if there's a pole or stick being turned—like this. You may have heard some people call this the Earth's axis. Now, this pole isn't something you can touch or see in real life, but if we imagine a pole here, then the places where the imaginary pole comes through the surface of the Earth are what we call the North Pole and the South Pole.

People figured out that there must be a North and South Pole long before anyone had ever actually visited these places. In fact, it became a contest to see who could get there first, because both places are extremely cold and really difficult to get to.

After lots of trying, some explorers finally made it to both the North Pole and the South Pole. Eventually, at the South Pole, people even built a few buildings where scientists could live and study what it's like there. Now, just to be funny, some of those scientists set up an actual pole—so today, there *is* a pole at the South Pole.

That might make you wonder—have they done this at the North Pole, too? Well, it turns out that's hard to do. At the South Pole, scientists could put a pole there and build buildings because there's land underneath. The South Pole is located near the middle of Antarctica—one of the seven continents.

The North Pole isn't like that. It's up here, where there's no land underneath it. Rather than being on top of land, the North Pole is actually in the middle of the Arctic Ocean. When you see a real photo from the North Pole, it might look like land, but it's actually just ice floating on top of ocean water.

In the summertime, every once in a while, the North Pole gets just warm enough that the very top layer of ice melts a little bit. That means it's tricky to put a pole there, because when the ice melts, a pole would fall over into the water.

So in summary, the North and South Pole are real places. They're called poles because it's as if there's an imaginary pole that goes through the Earth at these two points. But there were never real poles there.

The North and South Poles are both very cold places, but they're not exactly the same. In the summertime, the North Pole gets a little warmer than the South Pole, and here's something else you might not know—they have totally different animals.

Penguins can be found at the South Pole, but never at the North Pole, while polar bears can only be found at the North Pole, but never at the South Pole. People get this wrong *all* the time—like this commercial has a cartoon showing polar bears meeting up with penguins. That would never happen in real life, since they're on opposite poles from each other!

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