mystery science

Grades K-5
Mini-Lesson: “Why isn't Pluto a (major) planet anymore?”

VIDEO TRANSCRIPT

VIDEO 1

[Video Call]

- Hi, Doug!
- Hi, Corbin!
- I have a question for you. Why isn't Pluto a major planet?
- That's a great question.

In a previous episode, we talked about how some people got upset, even angry, when scientists decided to remove Pluto from the list of major planets. After all, if we think of all the planets in our solar system as being like one big family, then removing Pluto from the list of planets might kind of feel like we're kicking it out of our family. Poor Pluto!

So, why are scientists saying we shouldn't think of Pluto as one of the major planets of our solar system? Well, if you want to figure out the answer to this question, it's helpful to know about a true story. A story not about Pluto, but about a different planet in our solar system. This—the planet *Ceres*.

I know what you might be thinking, Ceres? Doug, I've never heard of Ceres. Are you sure that's a real planet? But, I promise you I'm not making this up.

You see, it all started about 200 years ago. Back then, any child learning about the planets learned most of the same planets you learn about. In school, they all learn the names of Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus.

Until one day in the year 1800, an astronomer, a scientist who studies space, was carefully looking through their telescope and discovered a new planet. It was a tiny little planet located between the planets Mars and Jupiter. The whole world was pretty amazed, "Wow, a new planet—that's exciting!" It was decided to name this little planet Ceres. And so Ceres got added to the list of planets everyone learned, Mercury, Venus, Earth, Mars, Ceres, Jupiter, Saturn, and so on.

Cool, but it gets better! Because you see the very next year, a different astronomer found another new planet. This one was also located in between the planets Mars and Jupiter, not too far from Ceres, actually. Wow! And it was also kind of little. It was decided to name this little planet, Pallas. And so children in school learned the names of the planets, Mercury, Venus, Earth, Mars, Ceres, Pallas, Jupiter, Saturn, and so on.

But wait—because just a few years later that same astronomer found yet another small planet, and again this one, in between the planets Mars and Jupiter, not too far from our new friends Ceres and Pallas. It was decided to name this planet Vesta.

Now, by this point you can see if you were learning the names of the planets, that's getting to be a pretty long list. And it kept getting harder and harder to learn because guess what! Just a few years later, another little planet was discovered, and another, then another!

Soon, there were thousands of these little planets being found between Mars and Jupiter. Astronomers realized that with all of these little tiny planets that kept getting discovered, they were dealing with something new, something unusual.

Do you know what all these tiny little planets are?

VIDEO 2

Well, all of these tiny little planets found between the planets of Mars and Jupiter got their own special name. Maybe you've heard of them before—*asteroids.*

We know today that asteroids are basically giant rocks floating around in space. They are similar to planets in some ways, but they're also much smaller than the other planets and there are so many of them. Rather than learn all of their names, we simply call this whole area between Mars and Jupiter, the *asteroid belt*, since when you make a map of it, it kind of looks like the shape of a belt going around the Sun.

So, that's the story, but what does all of this have to do with Pluto?

Well, you see, many years later when Pluto was first discovered, it was the farthest planet we've ever discovered. Way, way out at the very far end of the solar system.

But starting in the 1990s, astronomers had better telescopes and cameras than ever before. In the year 1992, they discovered a new planet out by Pluto, the planet Albion. Then, just a few years later, another one, and then another one, and another one, and another.

Today, they found thousands of little tiny planets similar to Pluto, all of them out there at the very far end of our solar system.

Do you see the similarities to the earlier story?

What astronomers have realized is that there's another belt in our solar system. This one isn't between Mars and Jupiter. It's a belt that's out at the very far end of our solar system. A belt they've named the Kuiper Belt, in honor of Gerard Kuiper, an astronomer who predicted that this belt might exist.

So, now you can finally start to see what scientists are saying. It makes sense to think of Pluto as something different than one of the major planets. Just like Ceres, Pluto turns out to be part of a belt of small, tiny planets.

When you think of our family of planets, it's still okay if you include Pluto. It is still a planet, but, just keep in mind that our family picture no longer looks like this, but more like this.

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