WHAT ARE THE TROJAN ASTEROIDS?

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00:00:01,603 --> 00:00:03,386
What are the Trojan asteroids?

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00:00:07,288 --> 00:00:08,720
We Asked a NASA Scientist.

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00:00:08,720 --> 00:00:15,760
Well, let's begin by going back over 4 billion\h
years when the newly formed solar system consisted

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00:00:15,760 --> 00:00:24,229
of trillions of tiny little rocky and icy objects.
Many of these objects came together to form the\hplanets.

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The majority of the others were scattered\h
into the distant reaches of our solar system

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00:00:29,360 --> 00:00:36,480
and beyond, but not all of them. Some of them are\h
pristine asteroids that now orbit with Jupiter

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00:00:36,480 --> 00:00:44,000
in two huge swarms leading and trailing the\h
planet. They're known as the Trojan asteroids.

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They're really really mysterious and we think\h
that they come from the outer solar system.

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They're also really special in terms of\h
understanding the evolution of the solar

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00:00:55,760 --> 00:01:01,760
system and understanding the evolution\h
of the planets because they have remained

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gravitationally stable for over billions of years.
And astronomers have only been able to study these

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distant and enigmatic small bodies from Earth.\h
But all of that is about to change. NASA's Lucy

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mission will embark on a 12-year journey to visit\h
these primitive asteroids. And it's going to be

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really exciting because it'll be the first time\h
that we are able to see these objects up close.

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00:01:28,640 --> 00:01:33,040
So, what are the Trojan asteroids? They're\h
asteroids that orbit with Jupiter around

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the Sun that ultimately hold the clues\h
to the formation of our solar system.