

A 3D rendering of the Trojan Asteroids in the solar system. The scene is set against a dark blue, star-filled background. In the upper center, the planet Jupiter is visible, showing its characteristic bands. A large, light blue, semi-transparent orbital ring surrounds Jupiter. Numerous dark brown, irregularly shaped asteroids of various sizes are scattered throughout the scene, many of which are positioned along the orbital ring. The text "TROJAN ASTEROIDS" is overlaid in the lower-left quadrant in a large, white, sans-serif font.

# TROJAN ASTEROIDS

1  
00:00:00,340 --> 00:00:04,040  
Here's what you need to know about  
Trojan asteroids.

2  
00:00:04,840 --> 00:00:06,840  
Over 4 billion years ago

3  
00:00:06,880 --> 00:00:11,080  
the newly formed solar system

4  
00:00:11,080 --> 00:00:15,340  
consisted of trillions of rocky and icy bodies.

5  
00:00:16,140 --> 00:00:20,180  
Many of these objects came together to form the planets.

6  
00:00:20,180 --> 00:00:25,100  
Most of the others were scattered to the distant reaches of our solar system

7  
00:00:25,260 --> 00:00:27,040  
and beyond.

8  
00:00:27,260 --> 00:00:29,680  
But not all of them.

9  
00:00:30,240 --> 00:00:34,840  
Some of these primitive bodies now share Jupiter's orbit,

10  
00:00:34,840 --> 00:00:41,360  
leading and trailing the planet in two vast swarms

11  
00:00:41,400 --> 00:00:43,920  
known as the Trojan asteroids.

12  
00:00:44,040 --> 00:00:46,120  
These ancient relics have remained

13

00:00:46,120 --> 00:00:49,200

gravitationally trapped  
for billions of years.

14

00:00:50,720 --> 00:00:53,800

Astronomers have only studied these  
mysterious asteroids from afar.

15

00:00:53,800 --> 00:00:56,760

But that's all about to change.

16

00:00:58,720 --> 00:01:03,520

NASA's Lucy mission  
will embark on a voyage

17

00:01:03,640 --> 00:01:06,480

to visit seven  
of these primordial objects.

18

00:01:07,960 --> 00:01:12,280

Named after the Lucy fossil  
that transformed our understanding of human evolution,

19

00:01:13,880 --> 00:01:17,840

the Lucy mission will transform our  
understanding of solar system evolution,

20

00:01:17,840 --> 00:01:22,120

bringing us closer than ever before  
to these fossils of planet formation

21

00:01:22,240 --> 00:01:24,960

while opening new insights  
into the origins of Earth

22

00:01:25,200 --> 00:01:29,040

and ourselves.

23

00:01:29,680 --> 00:01:34,560

And that's what you need to know

about Trojan asteroids.