

NASA's Kepler space telescope
found thousands of planets
outside our solar system.



1
00:00:00,000 --> 00:00:02,000
NASA's Kepler space telescope found thousands

2
00:00:02,000 --> 00:00:03,600
of planets outside our solar system.

3
00:00:03,600 --> 00:00:05,600
With its mission completed, the telescope will remain

4
00:00:05,600 --> 00:00:07,800
94 million miles away in an orbit trailing Earth.

5
00:00:07,800 --> 00:00:12,000
What will happen to the Kepler telescope now?

6
00:00:12,000 --> 00:00:15,000
Kepler is traveling in a somewhat larger,

7
00:00:15,000 --> 00:00:18,000
slower orbit than Earth.

8
00:00:18,000 --> 00:00:20,000
Over time it will trail farther and farther behind.

9
00:00:20,000 --> 00:00:24,000
By 2060, Kepler will fall so far behind

10
00:00:24,000 --> 00:00:28,000
that Earth will almost catch up to it.

11
00:00:28,000 --> 00:00:32,000
As Earth approaches, its gravity will tug at

12
00:00:32,000 --> 00:00:36,000
the telescope and send Kepler into a closer,

13
00:00:36,000 --> 00:00:40,000

faster orbit around the Sun.

14

00:00:40,000 --> 00:00:44,300

In its closer, faster orbit, Kepler will

15

00:00:44,300 --> 00:00:48,000

slowly speed ahead of our planet.

16

00:00:48,000 --> 00:00:51,000

In 2117, the telescope will almost catch up to Earth from behind.

17

00:00:51,000 --> 00:00:54,000

Earth's gravity will tug on the telescope as before,

18

00:00:54,000 --> 00:00:56,000

but this time, pull it back into the wider, slower orbit.

19

00:00:56,000 --> 00:00:58,000

For the foreseeable future, the pattern repeats

20

00:00:58,000 --> 00:01:01,000

as Kepler is tugged inside and outside of Earth's orbit.