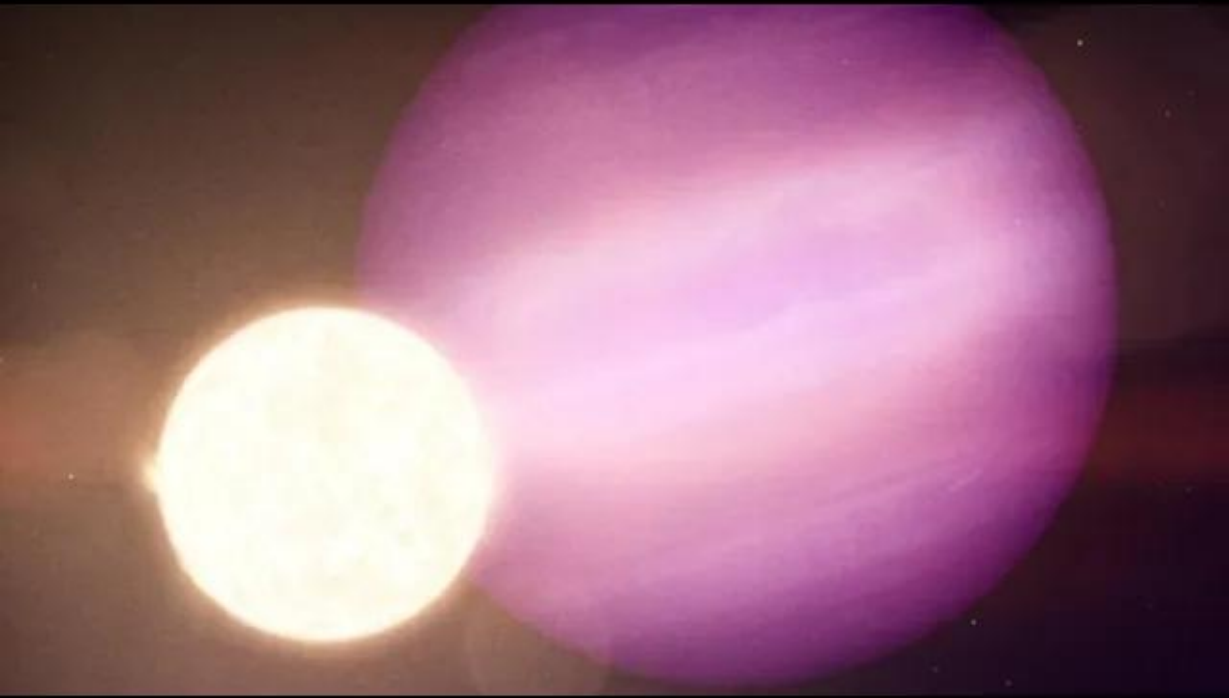

1
00:00:00,000 --> 00:00:04,295
■
NASA’s TESS and Spitzer missions just discovered a strange sight —

2
00:00:04,295 --> 00:00:10,093
maybe the first example of a giant world
orbiting extremely close to a small, dead star.

3
00:00:10,093 --> 00:00:18,435
The object, called WD 1856 b, is roughly the same size as Jupiter,
with possibly up to 14 times its mass.

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00:00:18,435 --> 00:00:21,354
About every day and a half, it orbits a white dwarf,

5
00:00:21,354 --> 00:00:26,735
a star containing half the Sun’s mass in a space
only slightly larger than Earth.

6
00:00:26,735 --> 00:00:33,408
TESS hunts for regular dips in starlight caused when planets
pass in front of, or transit, their stars.

7
00:00:33,408 --> 00:00:39,164
TESS discovered WD 1856 b’s transits,
which were then confirmed by Spitzer.

8
00:00:39,164 --> 00:00:42,751
Finding a potential planet so close to a white dwarf is surprising.

9
00:00:42,751 --> 00:00:47,881
Stars like WD 1856 often start out looking much like our Sun.

10
00:00:47,881 --> 00:00:53,136
But as they age, they transform into red giants,
engulfing any nearby planets.

11
00:00:53,136 --> 00:00:57,932
Then their atmospheres blow away,

revealing their dead white dwarf cores.

12
00:00:57,932 --> 00:01:03,646
So, WD 1856 b likely formed much farther away from its star.

13
00:01:03,646 --> 00:01:08,902
Scientists think there are several ways it may have moved inward,
closer to where we find it today.

14
00:01:08,902 --> 00:01:13,364
Then the effects of the star's gravity would have nudged it
into its current orbit.

15
00:01:13,364 --> 00:01:17,202
For example, it's possible the system had additional massive planets.

16
00:01:17,202 --> 00:01:20,038
As the star evolved and disrupted the planets' orbits,

17
00:01:20,038 --> 00:01:25,001
their gravitational interactions could have kicked WD 1856 b closer inward.

18
00:01:25,001 --> 00:01:30,632
Although the possible planet orbits the white dwarf,
there are two other small, distant stars in the system.

19
00:01:30,632 --> 00:01:35,136
Perhaps their combined gravitational influence
could have altered its orbit over time.

20
00:01:35,136 --> 00:01:42,227
Or, perhaps a massive object from deep space, such as another star,
could have thrown the entire system into disarray.

21
00:01:42,227 --> 00:01:47,440
No matter the cause, the system then settled
into its current state over billions of years.

22
00:01:47,440 --> 00:01:53,696

Scientists think this finding could help us understand how other star systems, including our own, may evolve.

23
00:01:53,696 --> 00:01:59,619
In the meantime, though, TESS will continue its search for more potential worlds like WD 1856 b …

24
00:01:59,619 --> 00:02:02,455
… and possibly find even stranger ones.