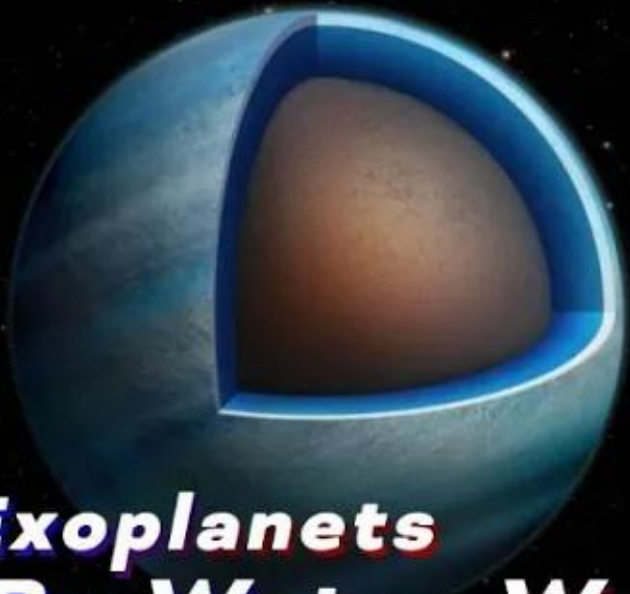

Two Exoplanets May Be Water Worlds

1
00:00:05,030 --> 00:00:02,450
using data from NASA's Hubble and

2
00:00:07,249 --> 00:00:05,040
Spitzer space telescopes astronomers

3
00:00:11,330 --> 00:00:07,259
have found evidence that two exoplanets

4
00:00:13,789 --> 00:00:11,340
orbiting a star 218 light years away are

5
00:00:16,970 --> 00:00:13,799
water worlds where water makes up a

6
00:00:20,090 --> 00:00:16,980
large fraction of the entire planet

7
00:00:22,670 --> 00:00:20,100
the planetary system known as kepler-138

8
00:00:25,189 --> 00:00:22,680
have worlds that are unlike any planets

9
00:00:27,170 --> 00:00:25,199
in our own solar system astronomers

10
00:00:30,589 --> 00:00:27,180
didn't directly detect water on the

11
00:00:33,350 --> 00:00:30,599
kepler-138 planets instead they compared

12
00:00:35,270 --> 00:00:33,360
the planet's sizes and masses to models

13
00:00:37,190 --> 00:00:35,280

that concluded up to half of their

14
00:00:39,410 --> 00:00:37,200
volume should be made of materials

15
00:00:42,170 --> 00:00:39,420
lighter than Rock but heavier than

16
00:00:45,170 --> 00:00:42,180
hydrogen or helium the most common of

17
00:00:47,510 --> 00:00:45,180
these materials is water it is the best

18
00:00:50,029 --> 00:00:47,520
evidence astronomers have ever found for

19
00:00:51,610 --> 00:00:50,039
water worlds a type of Planet long

20
00:00:53,930 --> 00:00:51,620
theorized

21
00:00:56,150 --> 00:00:53,940
researchers cautioned that the planets

22
00:00:58,369 --> 00:00:56,160
may not have surface oceans like on

23
00:01:00,830 --> 00:00:58,379
Earth the temperature of one planet's

24
00:01:04,070 --> 00:01:00,840
atmosphere is likely above the boiling

25
00:01:06,289 --> 00:01:04,080
point of water they expect a thick dense

26
00:01:08,810 --> 00:01:06,299
atmosphere made of Steam on this planet

27
00:01:11,510 --> 00:01:08,820
but there could potentially be liquid

28
00:01:13,250 --> 00:01:11,520
water at high pressures below it as

29
00:01:15,289 --> 00:01:13,260
instruments and techniques become

30
00:01:16,850 --> 00:01:15,299
sensitive enough to find and study

31
00:01:19,370 --> 00:01:16,860
planets that are farther from their