
WHERE DO
MOONS
COME
FROM?
NASA

1
00:00:00,800 --> 00:00:03,236
Where do moons come from?

2
00:00:07,674 --> 00:00:06,287
NASA

3
00:00:07,741 --> 00:00:10,777
Well, they actually can come from a lot of different places.

4
00:00:11,077 --> 00:00:15,915
Our Moon, for example, we believe formed in a cataclysmic impact

5
00:00:15,915 --> 00:00:20,787
between the early Earth and a Mars-sized planet. In just a few moments,

6
00:00:20,820 --> 00:00:24,524
this impact would have melted
the entire Earth into a lava world,

7
00:00:24,758 --> 00:00:28,895
sending thousands of tons of rocks
and material into space.

8
00:00:29,295 --> 00:00:33,535
Some of these rocks would combine together and form small moonlets.

9
00:00:33,714 --> 00:00:39,906
And over time, thousands of years, the moonlets would come together and form our Moon that we see today.

10
00:00:40,373 --> 00:00:43,443
On the other hand, the Galilean moons of Jupiter

11
00:00:43,676 --> 00:00:47,013
are thought to have formed from a giant disk of debris

12
00:00:47,247 --> 00:00:51,484
that Jupiter pulled in from the gas and dust that orbited the Sun

13
00:00:51,484 --> 00:00:53,553
in the early history of the solar system.

14
00:00:53,820 --> 00:00:57,157
The material in that disk would also form those same moonlets

15
00:00:57,323 --> 00:01:01,795
that eventually came together to make up
the four largest moons of Jupiter,

16
00:01:01,995 --> 00:01:04,431
IO, Europa, Ganymede and Callisto.

17
00:01:05,131 --> 00:01:08,268
For the last common way
moons are thought to originate,

18
00:01:08,301 --> 00:01:10,870
we have to look at Neptune's
largest moon, Triton.

19
00:01:11,571 --> 00:01:15,575
This moon has a very strange orbit,
which led us to hypothesize

20
00:01:15,575 --> 00:01:19,245
that it was actually a dwarf planet
from the Kuiper Belt, just like Pluto.

21
00:01:19,879 --> 00:01:24,084
One day it got too close to Neptune and was captured by Neptune's gravity.

22
00:01:25,018 --> 00:01:27,087
So where do moons come from?

23
00:01:27,087 --> 00:01:29,689
Well, we still have a lot of questions
that are unanswered,

24
00:01:30,290 --> 00:01:34,327
but with the next generation of scientists
and state-of-the-art missions,

25
00:01:34,561 --> 00:01:37,497
we hope to be able to answer the secrets
of the origins

26
00:01:37,497 --> 00:01:39,332
of the moons in our solar system.