



IS THERE
WATER
ON THE
MOON?



1
00:00:01,267 --> 00:00:03,134
Is there water on the Moon?

2
00:00:04,857 --> 00:00:06,779
NASA.

3
00:00:06,779 --> 00:00:08,208
We Asked a NASA Scientist.

4
00:00:08,708 --> 00:00:10,110
Actually, yes.

5
00:00:10,110 --> 00:00:12,345
But not like we experience here on Earth.

6
00:00:12,345 --> 00:00:15,448
On the Moon, water is found all over the surface,

7
00:00:15,448 --> 00:00:18,685
but it's mainly in the form of ice and not pools of liquid water.

8
00:00:19,019 --> 00:00:21,021
Some places have more water than others.

9
00:00:21,588 --> 00:00:24,824
At the poles of the Moon are areas that never receive any sunlight,

10
00:00:25,291 --> 00:00:27,327
and so they're extremely cold.

11
00:00:27,327 --> 00:00:29,262
We call these permanently shadowed regions,

12
00:00:29,262 --> 00:00:31,765
and there could be a lot of ice inside them.

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00:00:31,765 --> 00:00:35,435

The ice inside these regions may be mixed in with the lunar soil,

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00:00:35,568 --> 00:00:39,039

buried deep below the surface, or it could be a sheet of ice.

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00:00:39,606 --> 00:00:44,044

Outside these extremely cold places is much less water, but it's still there.

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00:00:44,577 --> 00:00:47,680

Surfaces on the Moon that do see sunlight experience

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00:00:47,680 --> 00:00:50,583

extreme temperature changes of 300 Celsius.

18

00:00:51,051 --> 00:00:54,654

This makes it hard for water to survive on the sunlit Moon, but the water

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00:00:54,654 --> 00:00:58,058

that does survive is unlike any water we experience here on Earth.

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00:00:58,258 --> 00:00:59,726

But what does that mean?

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00:00:59,726 --> 00:01:03,029

Imagine you have a handful of sand and you spread the grains

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00:01:03,029 --> 00:01:05,832

of sand out so far that no grain touches another grain.

23

00:01:06,366 --> 00:01:10,670

An individual grain of sand represents a single molecule of water.

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00:01:11,137 --> 00:01:13,973

And this is what we observe on the sunlit surface of the Moon.

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00:01:13,973 --> 00:01:18,711

The sunlit Moon, however, has 100 times

less water than the Sahara Desert,

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00:01:19,312 --> 00:01:22,248

but the poles of the Moon may contain tons of ice.

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00:01:22,449 --> 00:01:25,051

So, is there water on the Moon? Yes.

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00:01:25,485 --> 00:01:29,022

And one day, future astronauts may be able to harvest this water

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00:01:29,289 --> 00:01:33,359

and use it for drinkable water, breathable oxygen or rocket fuel

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00:01:33,526 --> 00:01:35,462

to take us farther out into our solar system.