1
00:00:05,980 --> 00:00:10,020
NARRATOR: NASA is developing a robotic explorer at Kennedy Space Center in Florida

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00:00:10,020 --> 00:00:14,910
to track down water on the moon, Mars or on an asteroid.

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00:00:14,910 --> 00:00:21,270
The hope is that water can be used by humans in the future to travel deep into the solar system.

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00:00:21,270 --> 00:00:25,780
The machine NASA is working on is called RESOLVE, for Regolith and

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00:00:25,780 --> 00:00:29,520
Environment Science and Oxygen and Lunar Volatiles Extraction.

6
00:00:29,520 --> 00:00:34,370
It is part drilling platform, part laboratory mounted on a set of wheels.

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00:00:34,370 --> 00:00:38,010
Armed with a drill and a suite of analytical devices, the robot's

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00:00:38,010 --> 00:00:42,240
work may determine how astronauts will explore the solar system.

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00:00:42,240 --> 00:00:49,690
After all, water can be used by people for everything from drinking supplies to producing rocket fuel.

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00:00:49,690 --> 00:00:54,130
So instead of having to launch from Earth with all the supplies they would need,

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00:00:54,130 --> 00:00:59,710
a human crew could go into space knowing that natural resources are already waiting for them.

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00:00:59,710 --> 00:01:03,420
In its earthly form, the rover and its onboard instrumentation are about

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00:01:03,420 --> 00:01:07,700

as tall as a person and weigh some 660 pounds.

14
00:01:07,700 --> 00:01:12,220
In its final configuration for the moon, the rover and its instruments will weigh about a

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00:01:12,220 --> 00:01:19,280
third of that and be somewhat smaller since the moon's gravity is only 1/6th that of Earth's.

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00:01:19,280 --> 00:01:22,660
While their ultimate destination is the moon, in the near term,

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00:01:22,660 --> 00:01:26,310
the team of engineers at NASA's Kennedy Space Center in Florida is

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00:01:26,310 --> 00:01:31,490
focusing on a destination much closer to home ? Mauna Kea, Hawaii.

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00:01:31,490 --> 00:01:34,740
It turns out the lava-covered mountain's soil is quite similar

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00:01:34,740 --> 00:01:38,710
to that in the ancient volcanic plains on the moon.

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00:01:38,710 --> 00:01:43,740
The team will take the rover to Hawaii and simulate a nine-day mission on the moon.

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00:01:43,740 --> 00:01:48,300
Such testing is critical to show engineers weak points in the design