



本集内容

Turning moon dust into water 把月球尘埃变成水

学习要点

有关“space exploration（太空探索）”的词汇

边看边答

Where might the experiment with moon rock be carried out in the future?

文字稿

One of the first things Neil Armstrong did after stepping onto the Moon was collect some soil.

尼尔·阿姆斯特朗登月后最先做的事情之一就是收集土壤。

Fifty years later, here it is at the Open University in Milton Keynes. In fact, the OU has been testing Apollo moon rock for decades. Incredible as it sounds, in their latest experiment, PhD student Hannah Sargeant is turning **lunar** dust into water.

五十年后，采回的土壤被送到了这里，英国米尔顿·凯恩斯镇的开放大学。其实，开放大学几十年来一直在分析检测“阿波罗”号采回的月球岩石。虽然听起来不可思议，但在最近的实验中，博士生汉娜·萨金特把**月球**尘埃变成了水。

Hannah Sargeant, PhD student, The Open University

Water is one of the most critical resources we need for space exploration. Not just for the life support needs of humans, but also to make **rocket fuel**, hydrogen and oxygen - it is **propellant**. So if we can produce that on the surface of the Moon, we can support long-term space exploration **missions** and produce the rocket propellant we need to perhaps use the Moon as a sort of pit stop for missions on the way to Mars.

汉娜·萨金特 开放大学博士生

“水是我们进行太空探索时所需的最关键的资源之一。它不仅用于维持人类的生命需要，还用于制造**火箭燃料**，氢和氧——它是一种**推进剂**。所以，如果我们能在月球表面制造出水，我们就能支持长期的太空探索**任务**，并制造出我们需要的火箭推进剂，这样也许就能在前往火星的任务途中在月球上补充燃料。”

In five years' time, thanks to a collaboration between the European Space Agency and the Russians, her experiment could be happening at the south pole of the Moon.

在五年内，通过欧洲航天局和俄罗斯专家的合作，她的实验可能会在月球南极展开。

It's one of the coldest places in our solar system.

月球南极是太阳系中最冷的地方之一。

They'll be heating moon rocks to five times the temperature of your oven, so the oxygen inside reacts with hydrogen they've brought along - making H₂O.

科学家们将把月球岩石样品加热到家用烤箱温度的五倍，这样一来，岩石内部的氧就能与科学家添加的氢产生反应，生成 H₂O（水）。

词汇

lunar 月球的

rocket fuel 火箭燃料

propellant 推进剂

mission 任务

视频链接

<https://bbc.in/2VopH1G>

问题答案

In five years' time, her experiment might be carried out at the south pole of the Moon.