



NASA rover extracts first oxygen from Mars

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NASA announced on Wednesday that its Perseverance rover has extracted the first sample of oxygen from Mars.

1-1. NASA has announced _____

1-2. having literally created oxygen _____

2. That's thanks to an experimental device _____

3. The gadget is called MOXIE and in its first activation, _____

4. That's enough _____

5. It may sound small, but that's big news; _____

6. NASA says it's the first technology of its kind _____

7. Oxygen is needed not only to see humans on Mars someday, _____

8. MOXIE's success comes a day after another achievement on Mars _____

8-2. NASA pulled off the first controlled powered flight _____

[Vocabulary]

□ **NASA**: =the National Aeronautics and Space Administration; a government organization responsible for space research and sending rockets into space

- *Long before the moon mission, I had told NASA that "Apollo 8" would be my last flight.*
- *The United States formed NASA to bring America to the forefront of space travel.*

□ **yet**: You can use yet to emphasize a word, especially when you are saying that something is surprising because it is more extreme than previous things of its kind, or a further case of them.

- *Yet bigger satellites will be sent up into orbit.*
- *We woke to yet another gray rainy day.*

□ **rover**: a small vehicle used by astronauts for traveling on the surface of a planet

- *the lunar rover that transported astronauts and their equipment*
- *See the latest amazing photos from NASA's Mars rover Curiosity currently exploring the*

Red Planet.

□ **rover vehicle**: a planetary surface exploration device designed to move across the solid surface on a planet or other planetary mass celestial bodies. ... They are essential tools in space exploration.

• *NASA has unveiled a concept of a Mars rover vehicle that is set to be launched to the Red Planet in 2020.*

- *NASA's Perseverance Mars rover vehicle extracts first Oxygen from Red Planet*

□ **gadget**: a small tool or piece of equipment that does something useful or impressive

- *...kitchen gadgets including toasters, kettles and percolators.*
- *You don't need the latest gadgets to get in shape.*

□ **moxie**: courage, nerve, confidence, or vigor

- *He **told** me I had a **lot** of moxie coming down here on my own from Canada.*
- *The name has become the word "moxie" in American English, a noun meaning courage, daring, or determination.*

□ **activation**: the act of making something start or making it start working; If a device or process is activated, something causes it to start working.

- *phone with voice activation*
- *The false activation of an alarm is a serious matter.*

□ **carbon dioxide**: It is a gas. It is produced by animals and people breathing out, and by chemical reactions.; a heavy odorless colorless gas formed during respiration and by the decomposition of organic substances; absorbed from the air by plants in photosynthesis

- *Though diesel vehicles are a health hazard, they produce less carbon dioxide than petrol vehicles.*

- *Plants clean the very air we breathe, trapping pollutants, taking in carbon dioxide and releasing oxygen.*

□ **astronaut**: someone who travels and works in space

- *The three astronauts on the craft survived.*
- *His meetings with the surviving astronauts of the American space programme are moving and memorable.*

□ **extraction**: the action of taking out something, especially using effort or force.

- *The extraction of precise data can be quite difficult.*
- *This will revolutionize our extraction of coal and other minerals," Holden said.*

□ **natural resource**: resources supplied by nature

- *"The government is clearly well aware of the natural-resource curse," he said.*
- *By 1999, 1.4 million acres were extinguished as a result of deforestation by natural resource industries.*

□ **live off the land**: to survive by eating what can be foraged, hunted, or grown in nature

- *Stranded in a remote part of the wilderness, we were forced to live off the land until a rescue team arrived.*
- *She had a burning desire to move out of the city and start living off the land on a tiny farm somewhere in the countryside.*

□ **crucial**: something that is crucial is extremely important because it has a major effect on the result of something

- *There are three elements crucial to recovery.*
- *Improved consumer confidence is crucial to an economic recovery.*

□ **pull off**: to be successful; achieve a goal; To be able to perform or complete something, especially in the face of hardships, difficulties, or setbacks.

- *If they're able to pull off the merger, they would form the largest single corporation in the world.*
- *We didn't think we could complete the project before the deadline, but somehow we pulled it off.*

□ **powered flight**: a powered aircraft ; an aircraft that uses onboard propulsion with mechanical power generated by an aircraft engine of some kind.

- *This awakened an interest in the problems of powered flight.*
- *Scientific advancement and the discovery of new concepts later allowed for powered flight, and advancements in medicine, chemistry, physics and engineering.*

[参照辞書: Merriam-Webster, Oxford English Dictionary, Cambridge Dictionary of American English, Collins English Dictionary, Macmillan Dictionary, the Free Dictionary, Wikipedia]