

SPACE TECHNOLOGY NEWS

ONE SMALL WEE FOR MAN



Could we build a place like this on the moon one day using space piddle?

NEW research from the European Space Agency has shown that wee (yes, wee) could be used to make concrete on the moon for a lunar base station.

Urea, the main substance in urine, apart from water, is the key. It would help to make a type of lunar concrete easier to mould into the required shape before it sets.

The main ingredient in lunar concrete would be lunar regolith, which is the loose, dusty stuff found on the moon's surface. Adding urea to a mix of lunar regolith and water

would make it less thick to stir, which means astronauts wouldn't need to use as much water.

Being able to use only materials available on the moon when building a lunar base would be really helpful, as it would reduce the need to launch supplies from Earth.

We reckon it sounds like a wee-ly good idea!

THE RIVERS OF MARS

SCIENTISTS have revealed the best evidence to date of the ancient rivers that flowed on Mars.

The team studied new high-resolution satellite images of a rocky Martian cliff face and found that it was formed by flowing rivers more than 3.7 billion years ago – that's around the time life began evolving on Earth. The research makes it more likely that life once existed on Mars.



These layered rocks on Mars were formed by flowing rivers

The detailed images were taken 400km from the Martian surface by the Mars Reconnaissance Orbiter spacecraft. They revealed a 200-metre-thick stack of layered rocks within the cliff walls.

The images' detail proved to scientists that the rocks were formed by running water. Scientists reckon these rivers were probably active for tens to hundreds of thousands of years.

DID YOU KNOW:

When American astronaut Neil Armstrong became the first human to set foot on the moon

on 20 July 1969, he famously said: "That's one small step for man, one giant leap for mankind."

INTRODUCING INGENUITY

IN more Martian news, this special helicopter – the first craft to roam the skies of another planet – has been officially named.

NASA held a contest for American school pupils to come up with a name for their upcoming Mars rover. They selected Perseverance. But then they decided the helicopter accompanying Perseverance ought to have a name too, so they took another look at the 28,000 submissions and chose Ingenuity.

The word means the ability to think of clever new ways of doing something. Vaneesa Rupani, a student at a high school in Alabama, came up with the name.

Perseverance and Ingenuity will leave for the Red Planet in July.





GLOSSARY	<p>piddle – Wee or urine</p> <p>lunar – To do with the moon</p> <p>lunar regolith – The loose, dusty stuff from the moon’s surface</p> <p>perseverance – When you carry on or keep trying with something</p>	<p>ingenuity – Thinking of creative or new methods</p> <p>evolving – Developing</p> <p>high-resolution – Better quality photographs that show detailed and clear images</p>
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● Look at the article ‘One small wee for man’.

1. What three ingredients would be in the lunar concrete?
2. Why does the European Space Agency think wee is a good material to use for building on the moon?
3. Do you think it is a good idea to build on the moon? Explain why/why not.

● Look at the article ‘The rivers of Mars’.

4. Explain how the scientists discovered that there used to be flowing rivers on Mars.
5. Match the measurements to the correct item:

3.7 billion years ago	The thickness of layered rocks within the cliff walls
200m	Distance the images were taken from by the satellite
400km	The time the rivers may have been active for
100,000 years	When the Martian cliff face was formed

6. Why does the discovery of ancient rivers make it more likely that life once existed on Mars?

● Look at the article ‘Introducing Ingenuity’.

7. Match the name to the item:

Perseverance	Mars rover
Ingenuity	Special helicopter
Red Planet	Mars

- 8a. How did NASA choose the name for the special helicopter?
- 8b. Why do you think they chose the name ‘Ingenuity’?
- 8c. What name would you have given the special helicopter and why?

9. Explain what Ingenuity will be doing in July.

● Think about all the stories.

10. These three news stories all involve scientific research into space. Do you think that space research is important? Explain why.

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