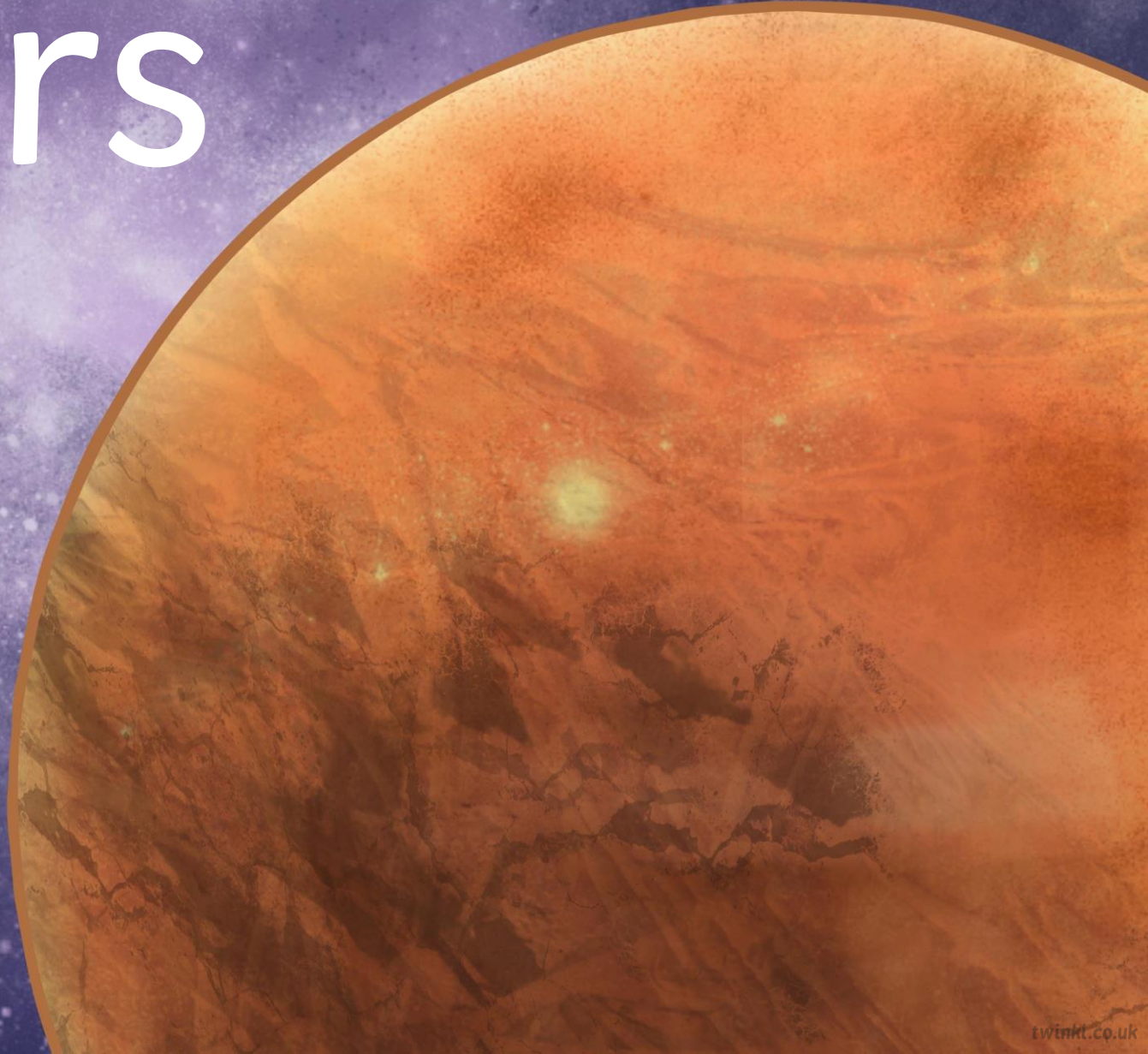


Mars



Earth is only one of the planets in our solar system. There are seven other planets that also orbit our Sun.

Mercury



Earth



Venus



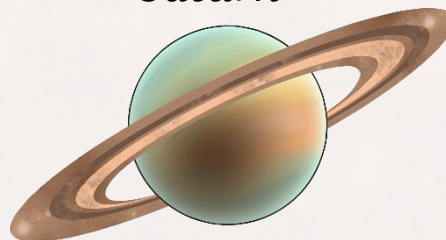
Mars



Jupiter



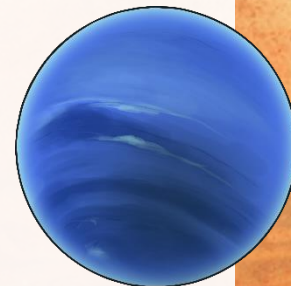
Saturn



Uranus

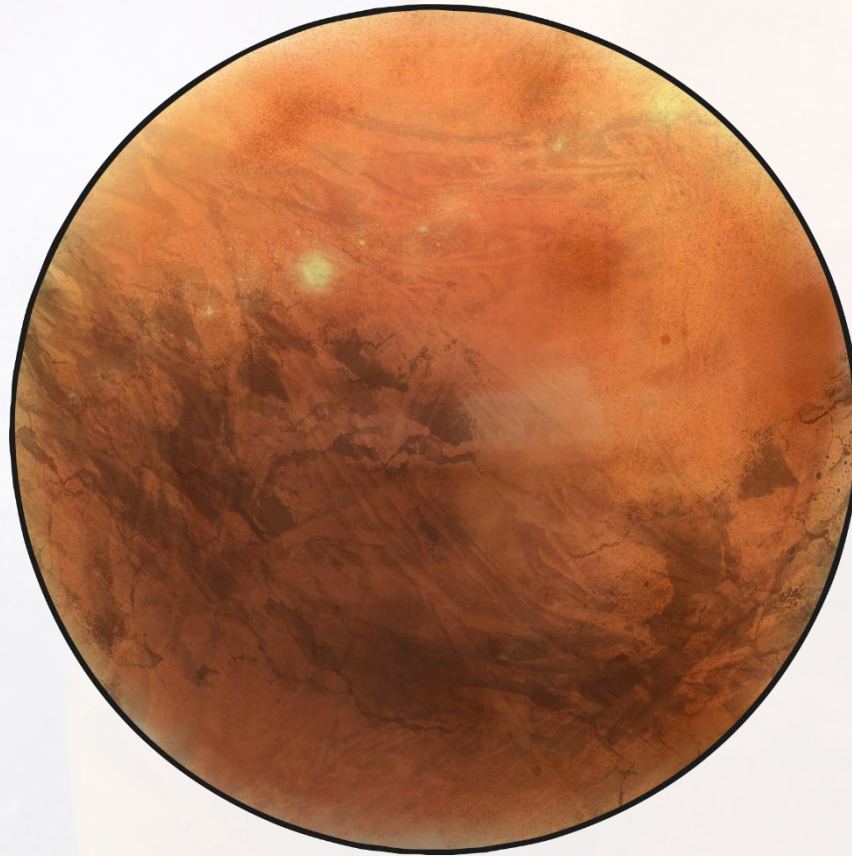


Neptune



Neighbours

The planet Mars is our neighbour. At some points in our orbit, Mars is only 55 million km away.

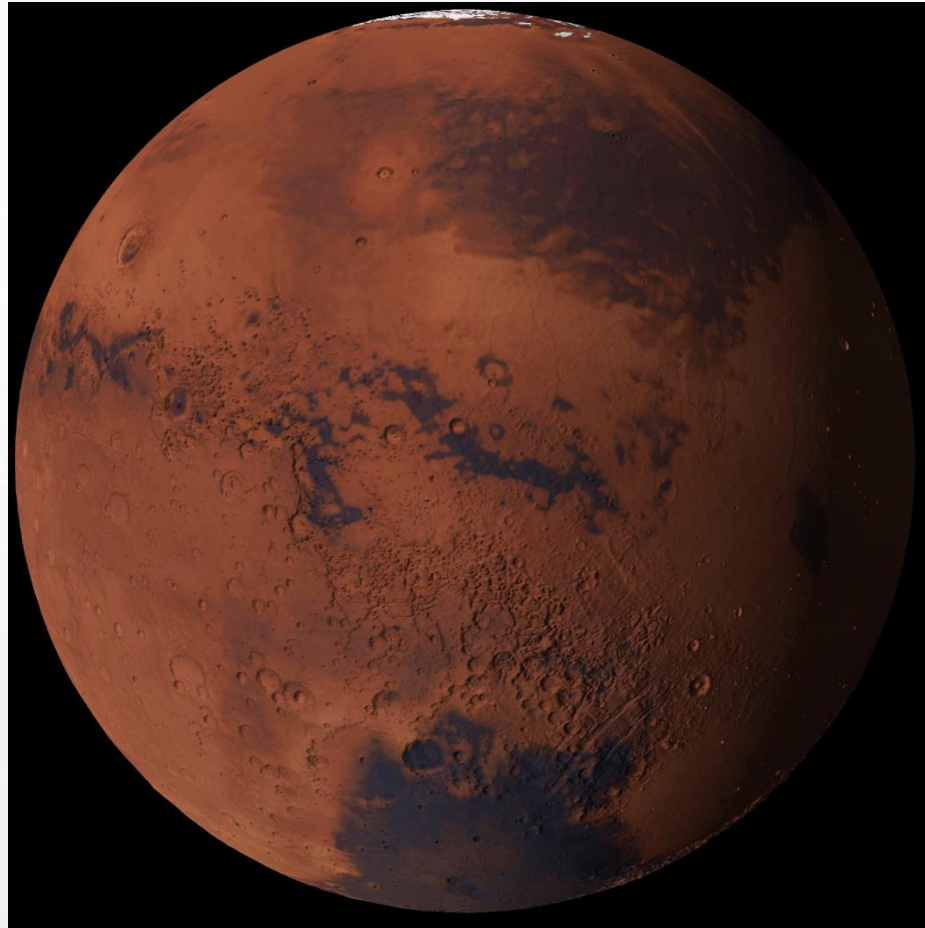


At times when the orbit of Mars brings it close to the Earth it can be clearly seen in the night sky.

A night sky photograph with a dark, star-filled background. In the lower-left quadrant, there is a large, bright orange-red sphere representing Mars. In the upper-right quadrant, there is a smaller, distant point of light. A white rectangular label with the word "Mars" in black text is positioned to the right of this point, with a thin white line pointing from the label to the point. The right edge of the image is partially obscured by the dark green foliage of a tree.

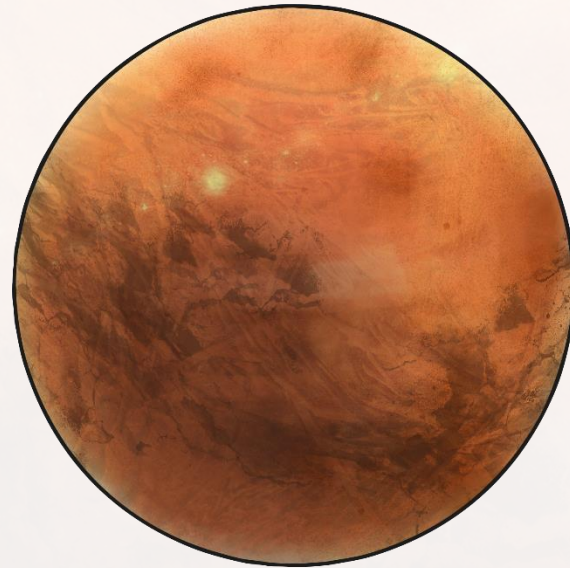
Mars

Mars is sometimes called the Red Planet. This is because most of the surface of Mars is covered in a thick layer of iron oxide dust. This is the same metal as a rusty car! It gives the planet a reddish appearance.



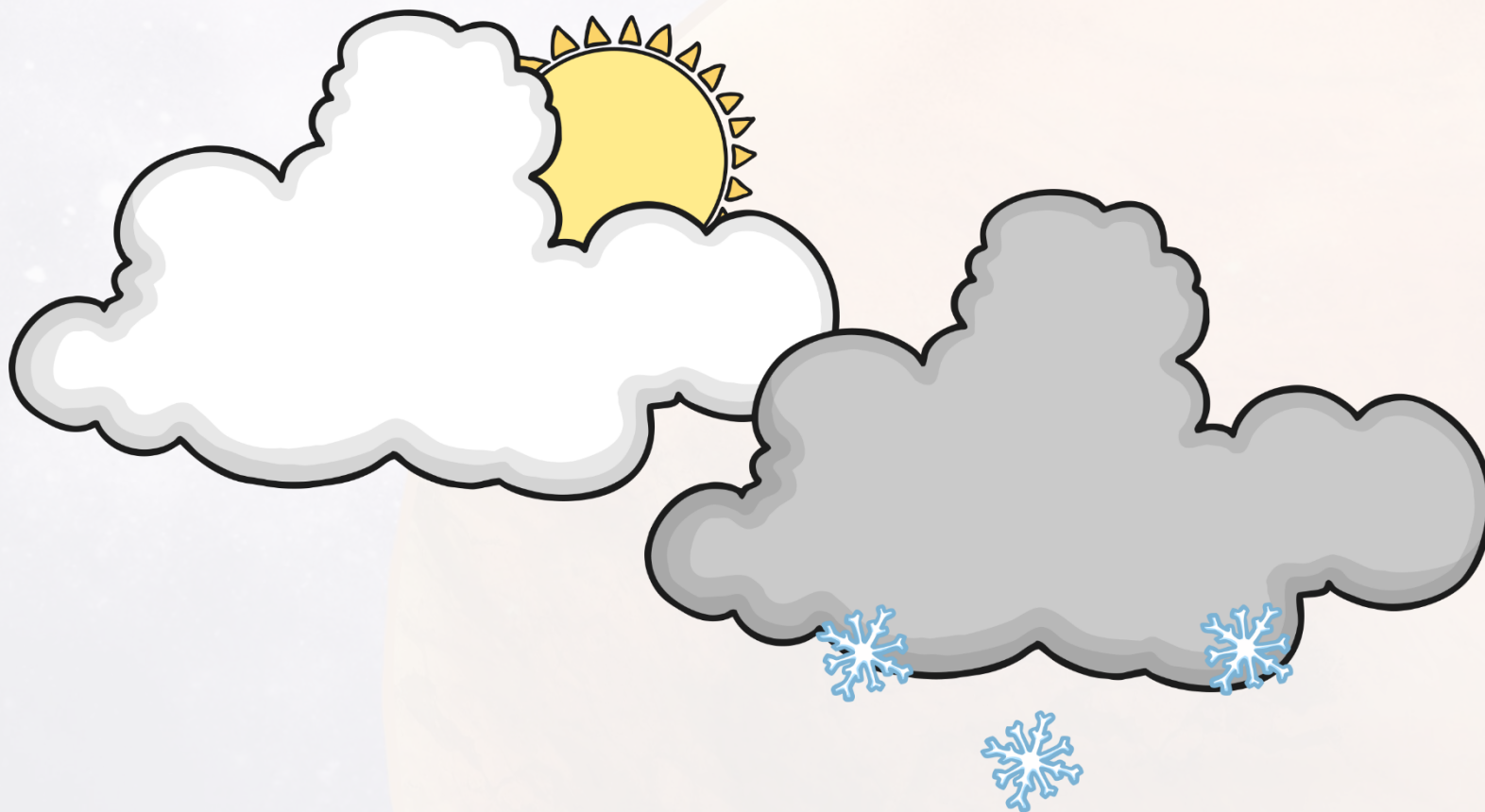
Mars has a lot of similarities to Earth:

- A day on Mars is 24 hours and 39 minutes long, almost the same length as a day on Earth.
- Mars has seasons, clouds and weather, just as we do on this planet.
- Like Earth, Mars has ice caps at the North and South Poles, and the surface of the planet is covered in mountains, volcanoes and canyons.



The weather on Mars is more similar to that on Earth than any other planet;

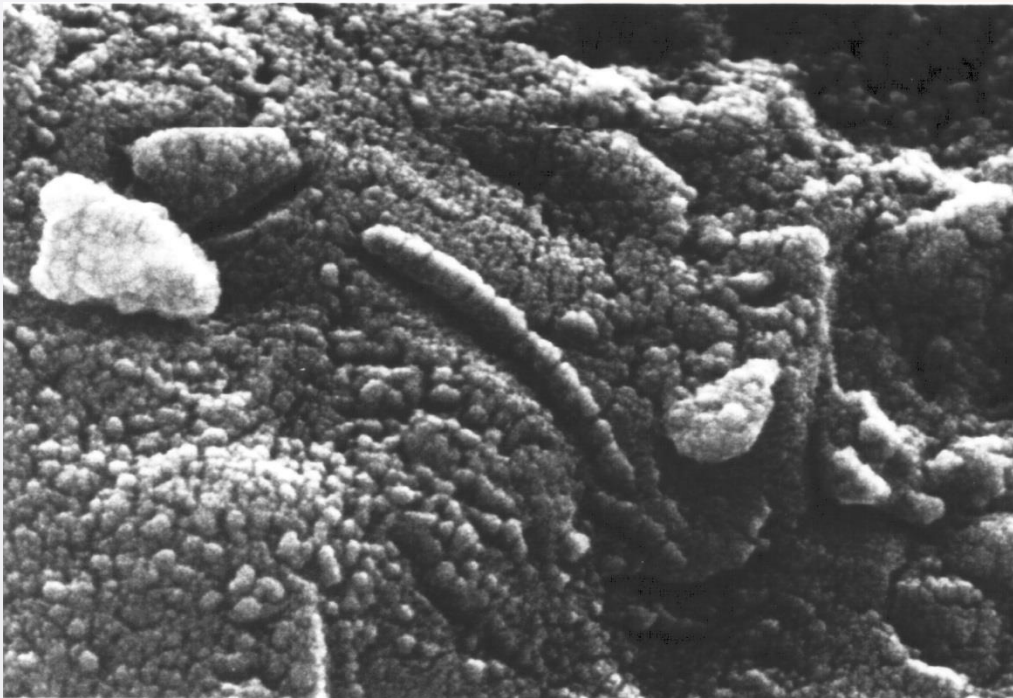
- Mars is farther away from the Sun than we are, so parts of the planet can get very cold.
- In summer, on the warmest part of the planet, temperatures can reach up to 20°C. This is about as warm as it is in the UK in July!



These similarities have made some scientists wonder if there might be, or ever have been, life on Mars.

So far, we don't have proof that there has ever been life anywhere in the universe except for on Planet Earth.

Given the conditions on Mars, it might be possible for microscopic living things called microbes to survive there.



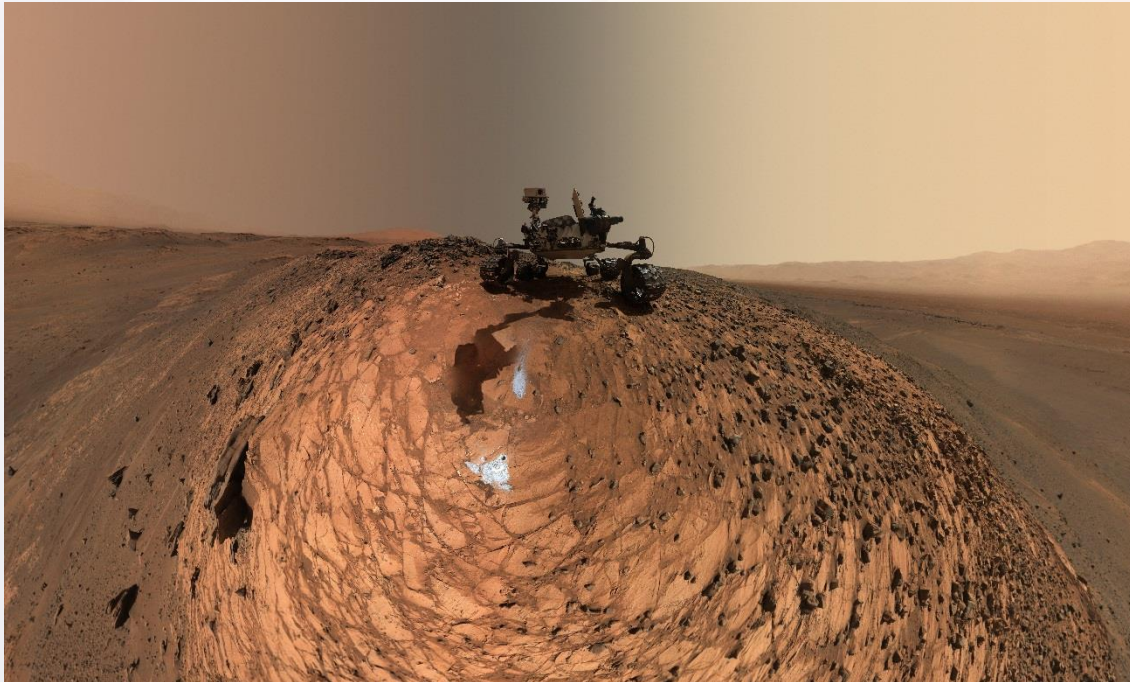
An electron microscope reveals bacteria-like structures in meteorite fragment.

Exploring

Since 1960, the United States Space Agency NASA and Space Agencies in the USSR, China and India have attempted to send 43 spacecraft to gather data about Mars.

23 of these have either failed to reach Mars or failed to return any information.

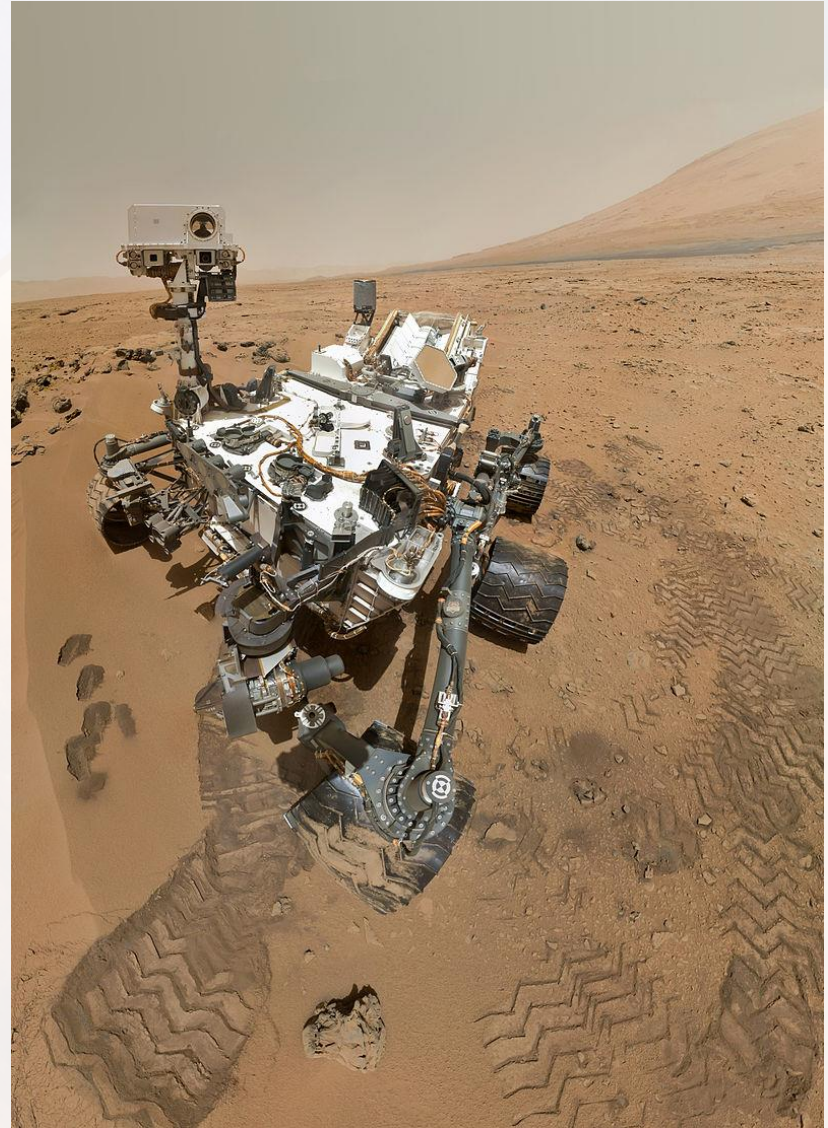
20 spacecraft have been successful at sending photographs and other data back to Earth.



One of NASA's Mars rovers collecting a drilled rock sample.

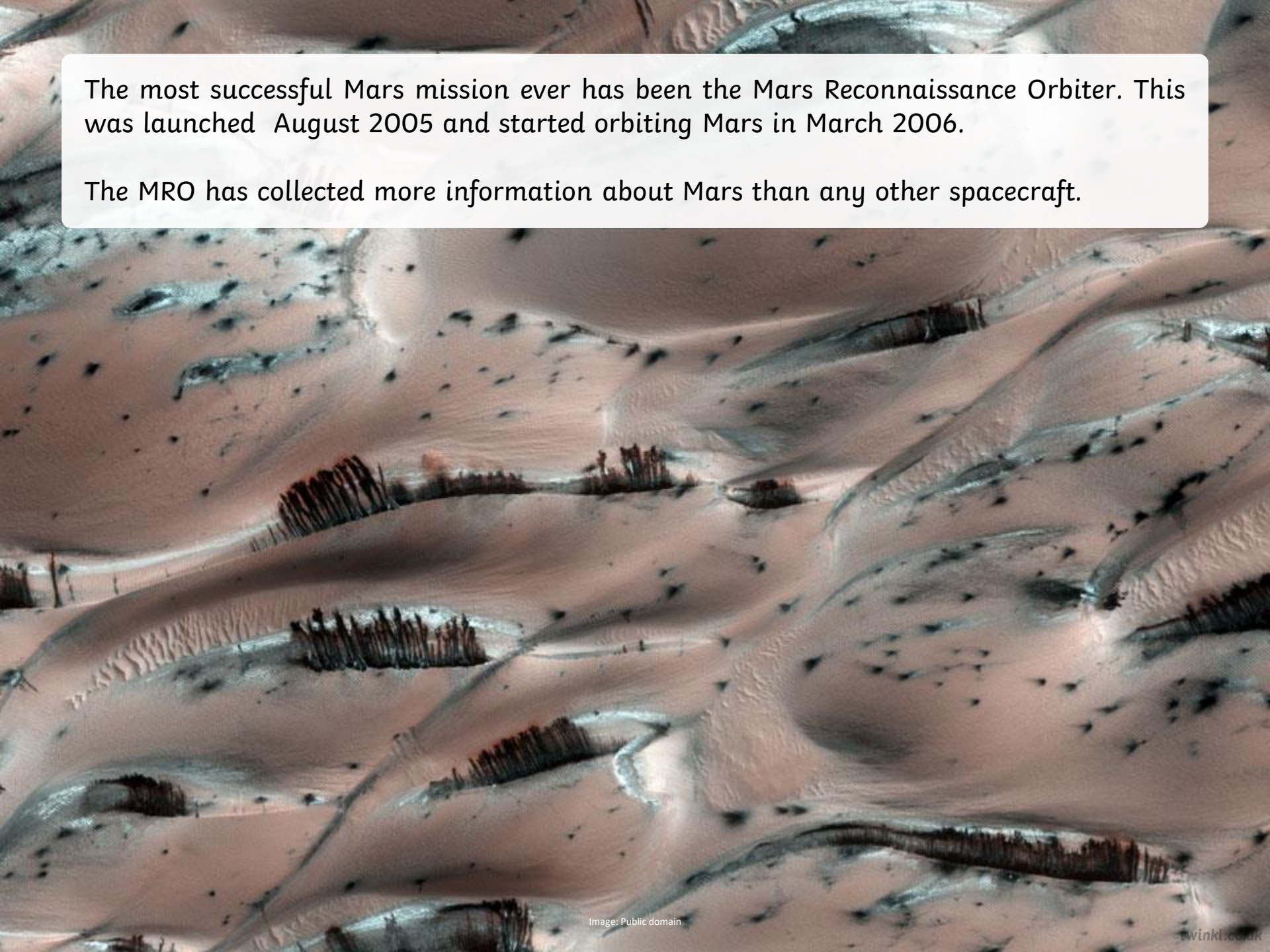
Currently there are seven spacecraft in operation collecting data from Mars.

There are five orbiters circling the planet, and two space rovers on the surface.

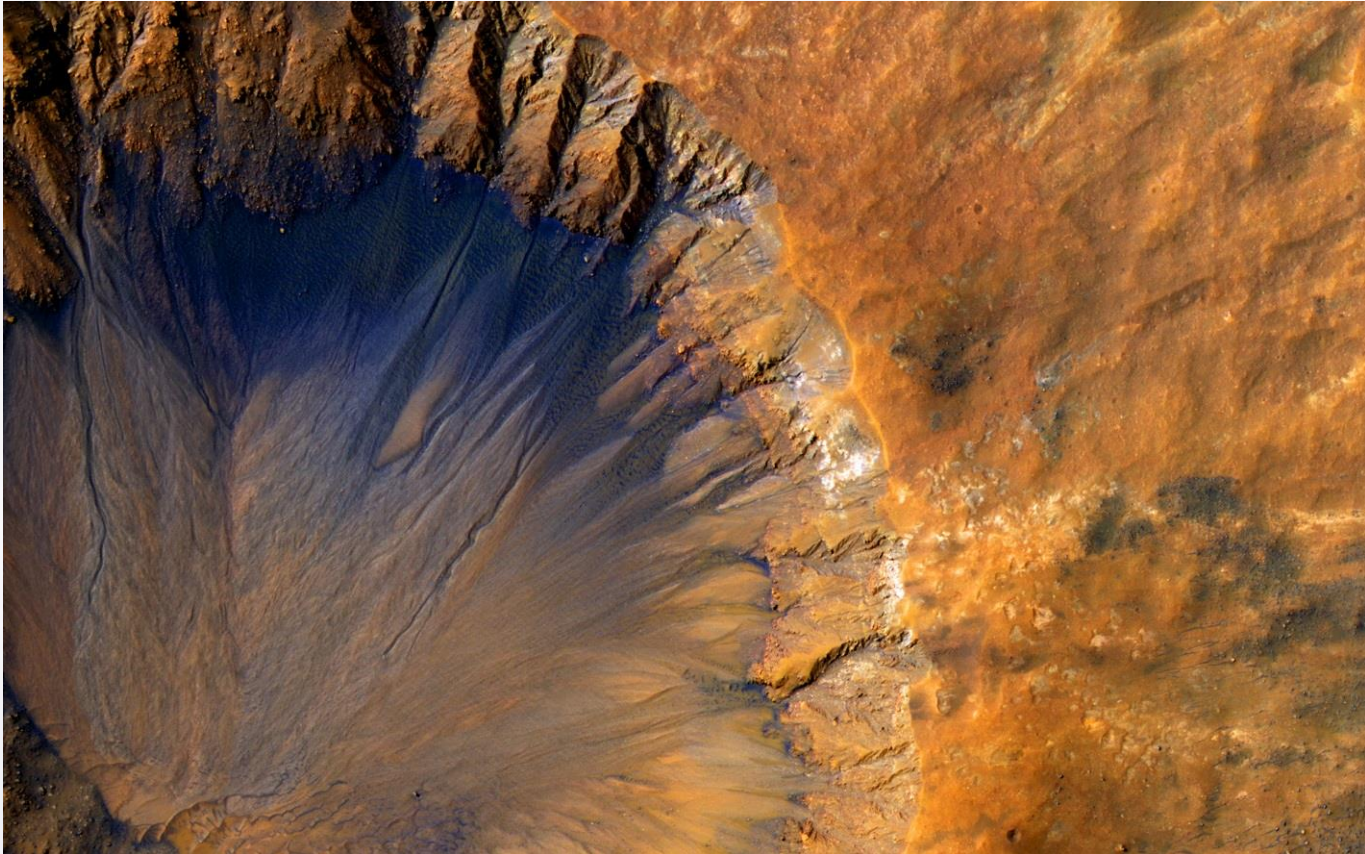


The most successful Mars mission ever has been the Mars Reconnaissance Orbiter. This was launched August 2005 and started orbiting Mars in March 2006.

The MRO has collected more information about Mars than any other spacecraft.



Photographs taken by the Mars Reconnaissance Orbiter:



A crater on Mars.

Photographs taken by the Mars Reconnaissance Orbiter:

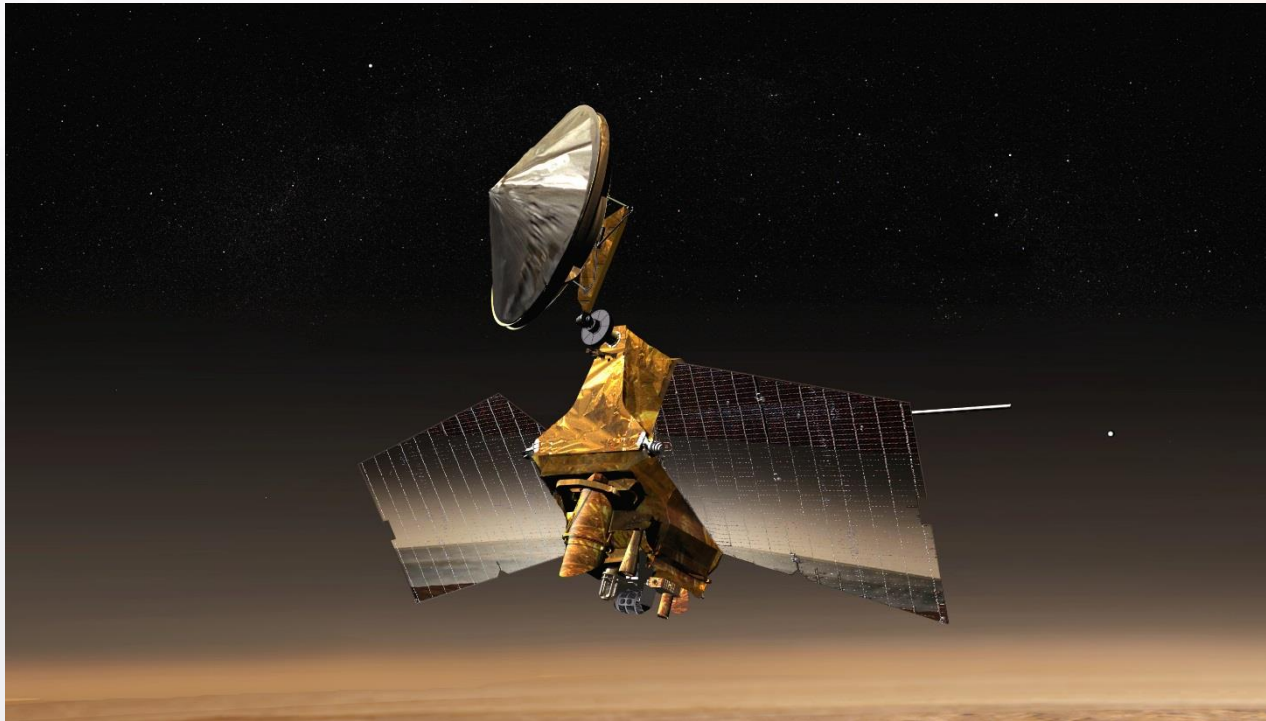


Cerberus Fossae Graben and Wind Streak

On 28th September 2015, scientists from NASA released a statement saying that the Mars Reconnaissance Orbiter (pictured below) has found proof that there is flowing water on the surface of Mars.

This is very important news because, as far as we know, all forms of life need water to survive.

This makes the possibility of finding life on Mars much more likely.



Do you think there could be life on Mars, or in other places in the universe?

What would this mean for humans?



