



It's Rain...But Not As We Know It, Say Scientists

What is WASP-76b?

- WASP-76b is an exoplanet. An exoplanet is a planet outside of our Solar System.
- Scientists have discovered that it rains iron and that only one side of the planet faces its star.

Scientists have discovered some pretty strange weather on a distant exoplanet. It appears to have been raining iron!

The team from Portugal, Italy, Spain and Switzerland were observing a planet called WASP-76b. They noticed that they were getting large readings of iron. The scientists say that this could prove that the planet rains iron.

WASP-76b is an exoplanet. That means it is a planet outside of our Solar System. It is 640 **light years** away. Scientists are studying exoplanets to see if they could host life, like that found on Earth.

The team were using a piece of equipment called VLT to observe the planet. It stands for 'Very Large Telescope' and it's in Chile. It is able to see huge distances into space.

They used another tool called the 'Espresso instrument' to investigate the planet as well. This is when they noticed the strange readings.

So, why do scientists think it rains iron on the planet? Well, only one side of the planet ever faces its nearest **star**. This means that one side of the planet is extremely hot — almost 2400°C! This is hot enough to turn iron into **vapour**.

Because the other side never faces the star, it is almost 900°C cooler. This temperature difference creates storms.

The storms travel from the hot side of the planet to the cooler side. The storms reach speeds of 18 000km per hour. When they reach

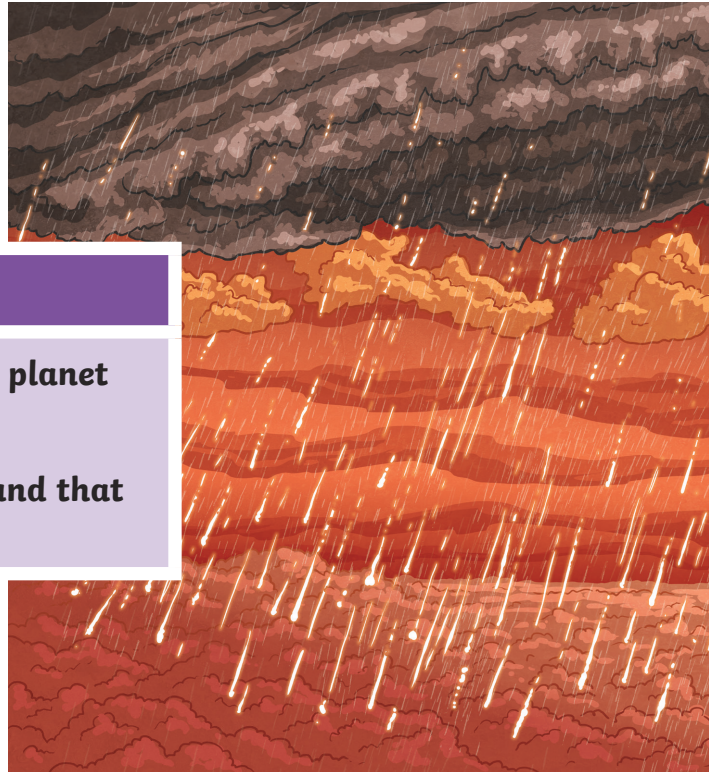


Illustration: Iron rain on WASP-76b.

the cooler side, the vapour **condenses**, creating clouds that begin to rain iron.

One of the scientists, Dr David Ehrenreich, said it rains in the evening "except it rains iron."

There have been a lot of exciting space stories in the news recently. A Mars lander got stuck drilling and had to hit itself over the head with a shovel to start working again.

NASA also has ambitions to visit Mars in the near future. Who knows what we will discover as we venture further into the unknown of space?

Glossary

light year	The distance light can travel in a year (around 6 million million miles).
star	A massive ball of hot gas that gives off light and heat. The Sun is the star in our Solar System.
vapour	A liquid that is suspended in the air.
condenses	When a gas turns into a liquid.

Questions

1. What is an exoplanet?

2. Compare and contrast the different sides of the planet.

3. 'This is when they noticed the strange readings.'

This suggests that...

- ☐ scientists expected these readings.
- ☐ scientists were surprised by these readings.
- ☐ scientists weren't particularly interested.
- ☐ the readings stopped the investigation.

4. Give two reasons why it's unlikely that humans will reach WASP-76b soon.

1.

2.

5. 'Who knows what we will discover as we venture further into the unknown of space?'

Tick the word that is closest in meaning to 'venture'.

- ☐ experiment
- ☐ plan
- ☐ travel
- ☐ experience

6. Write a summary of the story in 20 words or fewer.

Answers

1. What is an exoplanet?

An exoplanet is a planet outside of our Solar System.

2. Compare and contrast the different sides of the planet.

Accept any comparisons that refer to the story, e.g. One side of the planet is 1000°C cooler than the other side. On the cooler side, it rains iron. Only one side of WASP-76b faces its star.

3. 'This is when they noticed the strange readings.'

This suggests that...

- ☐ scientists expected these readings.
- ☒ **scientists were surprised by these readings.**
- ☐ scientists weren't particularly interested.
- ☐ the readings stopped the investigation.

4. Give two reasons why it's unlikely that humans will reach WASP-76b soon.

Accept two reasons that refer to the story, e.g. WASP-76b is a long way from Earth (over 640 light years away). NASA is planning to go to Mars soon instead.

5. 'Who knows what we will discover as we venture further into the unknown of space?'

Tick the word that is closest in meaning to 'venture'.

- ☐ experiment
- ☐ plan
- ☒ **travel**
- ☐ experience

6. Write a summary of the story in 20 words or fewer.

Accept any reasonable answer which refers to the story, e.g. Scientists have found out what it appears to rain iron on a distant exoplanet.