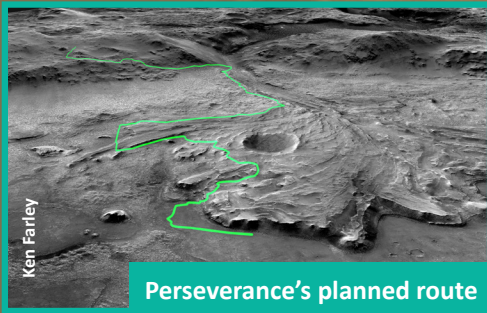


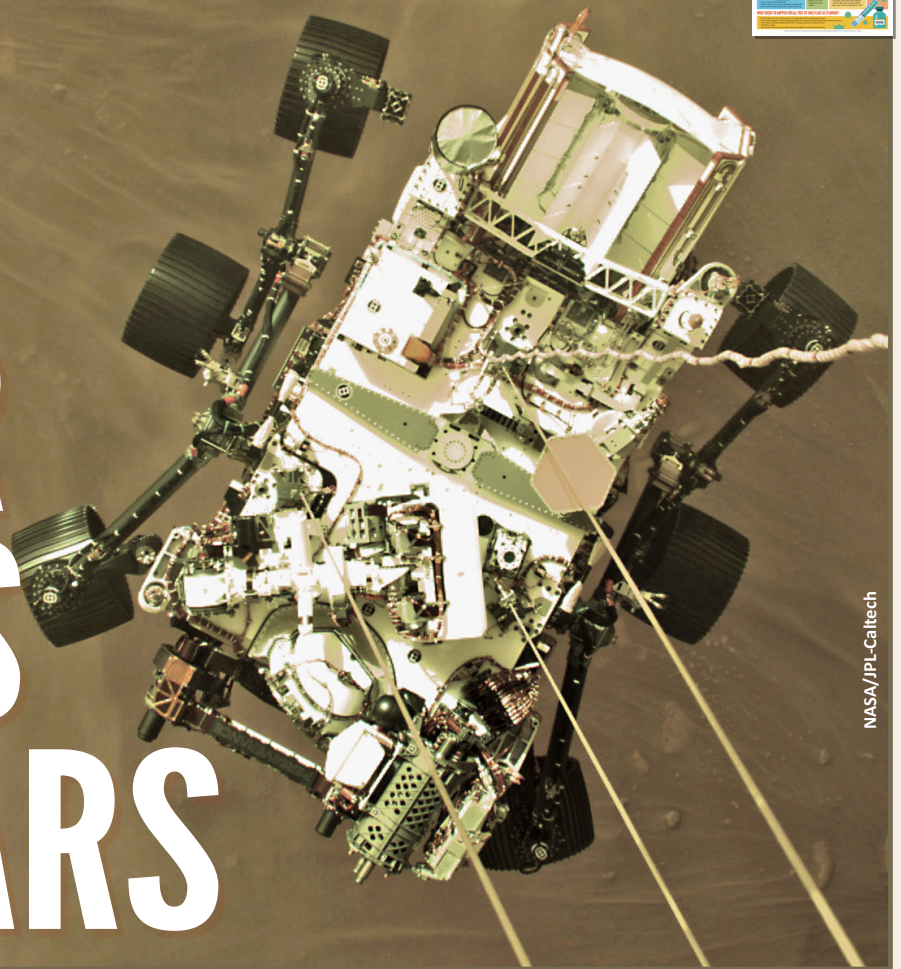
SCIENCE NEWS



Ken Farley

Perseverance's planned route

ROVER LANDS ON MARS



NASA/JPL-Caltech

NASA's Perseverance rover is exploring Mars after successfully landing last week.

The US space agency's latest Red Planet robot is the most advanced yet, and it's on a mission to find signs of ancient life and collect samples of rock for future return to Earth.

NASA hopes this mission will provide lots of valuable data for a first trip by astronauts to Mars.

There were happy scenes at mission control in Los Angeles, USA, as the rover successfully touched down inside a huge crater last Thursday. It left Earth on 30 July 2020 and had been travelling through space for nearly seven months.

The 1,025-kilogram robot covered some 472 million kilometres before it entered the Martian atmosphere at 19,000km/h (12,000mph). Its descent to the Red Planet was entirely self-guided, which means that the team at mission control could only watch and hope it all went well. After entering the atmosphere, Perseverance cut itself loose from its parachute and used rocket thrusters on a 'sky crane' to slow down.

After the "seven minutes of terror" as it landed, Perseverance flight controller Swati Mohan announced: "Touchdown confirmed! Perseverance safely on the surface of Mars, ready to begin seeking signs of past life." NASA scientists, all wearing masks due to the pandemic, erupted with cheers and applause. A few minutes later, the first images taken by Perseverance arrived on Earth.

The Perseverance rover is designed to help us better understand the geology of Mars and find signs of ancient life.

The mission will collect and store a set of rock and soil samples that will hopefully be returned to Earth in the future. Perseverance will also test new technology that could be used for future robotic and human missions to Mars.



Mission control



Perseverance's first image of Mars, which was posted on Twitter

SCIENCE NEWS



GLOSSARY

NASA – The National Aeronautics and Space Administration. The part of the US government responsible for space exploration

rover – A robotic vehicle used to explore planets or other space bodies

data – Large amounts of information, especially facts and numbers

geology – The study of the rocks that make up a planet’s surface

Twitter – A website and app that lets people publish short messages (of up to 280 characters) to anyone interested. A message sent through the service is called a ‘tweet’

1. Complete the details of Perseverance’s journey.

Launch date:	
Time it took to get to Mars:	
Distance travelled:	

2. The noun ‘Mars’ can be turned into an **adjective** to describe something of, or related to, the planet. What is the word?

3. At what speed was Perseverance travelling when it entered the atmosphere?

4. Find two pieces of kit that helped the spacecraft to slow down.

5. Find and copy the expert’s words that describe the moments of landing and reveal how they felt while it happened.

6. Can you explain why the experts found this time so stressful?

7. True or false?

	TRUE	FALSE
The rover landed in a mountainous area of Mars.		
Perseverance will send rock samples back to Earth.		
Swati Mohan is the flight controller of the mission.		
The robot weighs over 1,000 kilograms.		
Perseverance’s Twitter feed is written in the first person.		

8. What does the word ‘erupted’ tell you about the scientists’ response to Swati’s words?

9. What are the aims of the Perseverance mission? Can you find four, or even five, aims from the article that summarise the hopes of NASA scientists?

- 1.
- 2.
- 3.
- 4.

10. NASA ran a competition to choose the name for the Mars rover. It was suggested by a 13-year-old boy. Explain why Perseverance is a good choice, using your knowledge of the word.

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TEACHER ANSWERS

AIM OF THE NEWS COMPREHENSIONS: News reports are unique non-fiction texts. Being real, they naturally engage students, and with the range of topics that are covered, help to develop pupils' knowledge and understanding of the wider world outside the classroom. The reports are ideal for short, focused comprehension or discussion activities. Along with the opportunity to find fascinating facts and appreciate the opinions of those involved, there is plenty to be inferred and deduced to understand in more depth what is being reported. Like authors, journalists play with language, so news 'stories' are rich nuggets of text to investigate and provide the opportunity for literacy programmes.

TEACHER ANSWER GUIDE: The teacher answers are intended to provide a quick reference guide. Suggestions are given for the 'Expected response' or starting point that pupils could give. The 'Development' then gives more in-depth ideas that students can work towards as they develop their reading comprehension skills.

For a list of the reading skills used, please email schools@firstnews.co.uk.

1. Complete the details of Perseverance's journey.

READING SKILL – Find and explain information

(NC 2a)

Expected response

Launch date:	• 30 July 2020
Time it took to get to Mars:	• Almost seven months
Distance travelled:	• 472 million kilometres

2. The noun 'Mars' can be turned into an adjective to describe something of, or related to, the planet. What is the word?

READING SKILL – Understand vocabulary in context

(NC 2a)

Expected response

- Martian

3. At what speed was Perseverance travelling when it entered the atmosphere?

READING SKILL – Find and explain information

(NC 2a)

Expected response

- 12,000 miles per hour

4. Find two pieces of kit that helped the spacecraft to slow down.

READING SKILL – Find and explain information

(NC 2a)

Expected response

- A parachute
- Rocket thrusters on a 'sky crane'

5. Find and copy the expert's words that describe the moments of landing and reveal how they felt while it happened.

READING SKILL – Infer information and justify with evidence

(NC 2c & 8)

Expected response

- "seven minutes of terror"

6. Can you explain why the experts found this time so stressful?

READING SKILL – Infer information and justify with evidence

(NC 2c & 8)

Expected response

- They were worried that Perseverance would crash.

Development

- This is a dangerous moment in the mission, as the spacecraft is travelling very fast and there is a chance that it might crash into the ground. Then all their hard work would come to nothing.
- Also, the landing was automated, or 'self-guided', so there wasn't anything the scientists could do at this point, they just had to wait and hope it all went OK.

7. True or false?

READING SKILL – Find and explain information
(NC 2a)

Expected response

	TRUE	FALSE
The rover landed in a mountainous area of Mars.		✓
Perseverance will send rock samples back to Earth.		✓
Swati Mohan is the flight controller of the mission.	✓	
The robot weighs over 1,000 kilograms.	✓	
Perseverance’s Twitter feed is written in the first person.	✓	

8. What does the word ‘erupted’ tell you about the scientists’ response to Swati’s words?

READING SKILL – Understand vocabulary in context
(NC 2a)

Expected response

- It tells you they started to make a loud noise, all of a sudden.

9. What are the aims of the Perseverance mission? Can you find four, or even five, aims from the article that summarise the hopes of NASA scientists?

READING SKILL – Infer information and justify with evidence
(NC 2c & 8)

Any of:

- 1. To find signs of ancient life
- 2. To collect and store samples of rock for future return to Earth
- 3. To provide data for a first trip by astronauts
- 4. To help us understand the geology of Mars
- 5. To test new technology

10. NASA ran a competition to choose the name for the Mars rover. It was suggested by a 13-year-old boy. Explain why Perseverance is a good choice, using your knowledge of the word.

READING SKILL – Infer information and justify with evidence
(NC 2c & 8)

Expected response

- It means to try really hard, which is what you have to do to explore another planet.

Development

- Perseverance means to work hard and keep trying and that’s what this rover has to do; it has to keep working and overcome the challenges it will find on Mars.
- It’s also what scientists and engineers have to do to get a spacecraft to another planet and overcome the challenges of working in space.