



SEVEN MINUTES OF TERROR- Perseverance Lands on MARS!

By: Barbara D'Amora M.Ed



Space geeks think of the letters “EDL” as SHORTHAND (a method of rapid writing using abbreviations) for the CRUCIAL (decisive or critical especially in the success or failure of something) mission phase called entry, descent, and landing—but in the NASA world it is also known as the seven minutes of terror. NASA stands for the National Aeronautics and Space Administration.

NASA has been preparing to put its next rover (a motor vehicle that travels across the surface of the planet), named Perseverance, safely on MARS , the red planet. The one-ton space robot will attempt a daring landing that involves HURLING (throwing with great force) into the Mars atmosphere at about 12,000 miles an hour, then using thrusters to slow its descent and guide it to a safe landing zone, and then being lowered to the surface at a gentle 2 miles an hour by a giant crane.

Question Type Key

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Spell AERONAUTICS Spell DESCENT Spell CRUCIAL

Name one of the words in the abbreviation NASA. NATIONAL, AERONAUTICS
SPACE,
ADMINISTRATION.

What is the abbreviation for the phrase entry descent and landing?
EDL

What is the name of the flagship Rover?
PERSEVERANCE

What planet is known as the red
planet?

MARS How many pounds is one ton? 2000

Perseverance will enter the atmosphere on Mars at how many miles an hour?
12,000

What did the story say is used to slow its descent?
THRUSTERS

At what speed does a giant crane lower the rover onto Mars surface? 2 miles an
hour

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The space agency has only pulled off this MANEUVER (a series of moves requiring skill and care) once before, when the “sky crane” system set down another rover named Curiosity on the GALE CRATER (a crater and probable dry lake on planet Mars) in 2012. It worked then, but there’s no guarantee it will work now. Engineers chose the landing zone for Curiosity in part because it is an EXPANSE (a wide continuous surface) of relatively flat terrain—a perfect “parking lot” free of hazards. By contrast, the landing zone for the rover Perseverance, inside a dried-out LAKEBED called JEZERO CRATER, is filled with boulders and cliffs that could spell doom for an unprepared rover. This time, the spacecraft in question is headed down with detailed onboard maps and a suite of cameras that should help it avoid CATASTROPHE (an event causing great damage or disaster).

Spell **GUARANTEE**

Spell **TERRAIN**

Spell **PERSEVERANCE**

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What was the name of the previous space rover that landed on Mars? CURIOSITY

Where on Mars did the Curiosity land? THE GALE

CRATER

What is another word for a series of moves requiring skill or care? MANEUVER

What year did Curiosity land on Mars?

2012

Name one of the descriptions of the landing zone chosen for the Curiosity to land? WIDE SURFACE, FLAT TERRAIN, PERFECT PARKING LOT, FREE OF HAZARDS

What did the rover Perseverance land on? JEZERO

CRATER

Name something that can be dangerous for an unprepared rover? BOULDERS, CLIFFS

Name one of the 9 planets in our solar system.

What is another word for disaster?

CATASTROPHE

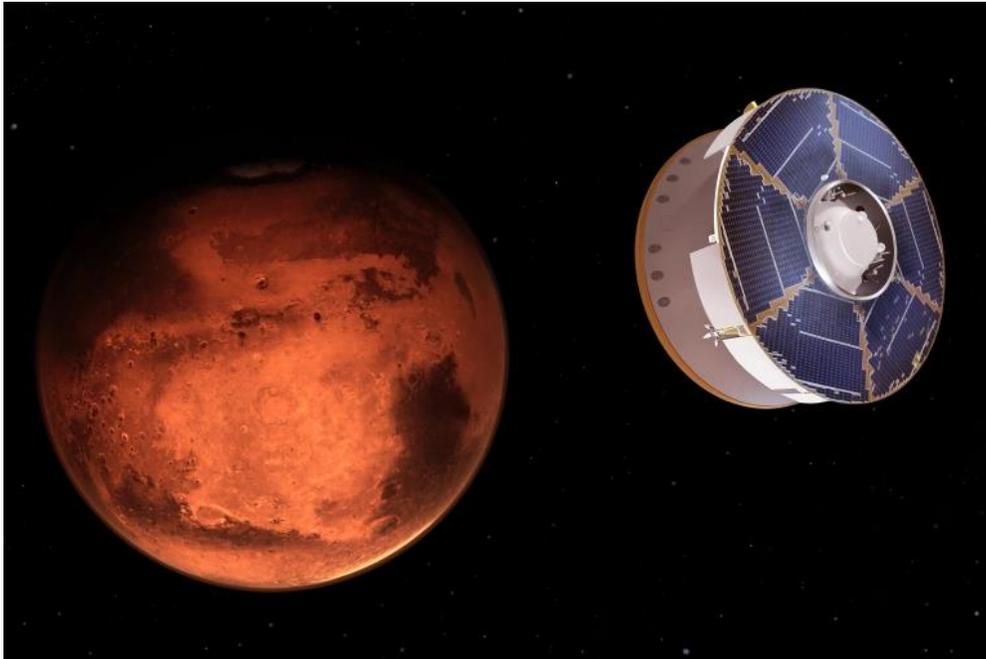
What do you think a planet must have in order to sustain life?

Success! NASA's Perseverance rover lands on Mars!



Question Type Key

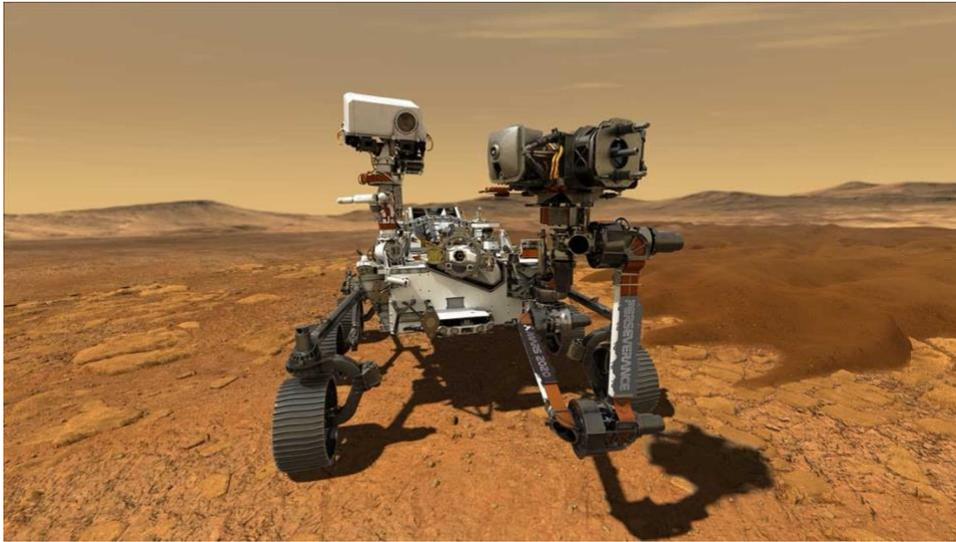
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The Perseverance rover took its first image of the dusty Martian surface mere moments after touching down on February 18, 2021.

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Perseverance confirmed its safe arrival with a signal relayed to Earth VIA (traveling thru something) the Mars Reconnaissance Orbiter—and it sent its first photos from its PERCH (a place where something rests or sits) on the surface. At NASA’s Jet PROPULSION (the action of driving or pushing forward) Laboratory in California there was much JUBILATION (a feeling of great happiness and triumph)!

The rover’s mission is an AMBITIOUS (a strong desire and determination to succeed) one. They want to seek signs of ancient life on the red planet. It will be the first of NASA’s five rovers to sniff around for traces of inhabitants of a world that, for its first billion years or so, was warmer and wetter than the dusty planet we see today.

Spell ANCIENT Spell BILLION Spell MISSION

What did Perseverance send to earth to confirm its safe arrival? A SIGNAL

The Mars Reconnaissance Orbiter sent what to Earth? PHOTOS

Name one word used to describe Mars billions of years ago. WARMER, WETTER

What is the ambitious mission of the rover? TO SEEK SIGNS OF ANCIENT LIFE

How many zeros are in a billion? 1,000,000,000 (9)

How is the planet mars described in the story?

DUSTY

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What is another word for Jubilation?

HAPPINESS

If you discovered a planet what would you name it?

To help scientists search for clues that Mars might have been a living planet, Perseverance will stuff it's pockets with rock samples that will eventually be returned to Earth for detailed SCRUTINY (study with critical observation) sometime within the next decade. The answer to whether life ever existed on Mars could be locked inside those SOUVENIRS (a thing that is kept as a reminder of a person , place or event). Or, if scientists get really lucky, the rover could find answers as it aims its many instruments at Jezero's formerly watery TERRAIN (a stretch of land).

The ARID (a climate having little or no rain) landscapes we see today are in all likelihood uninhabited, but billions of years ago, water pooled and flowed over the MARTIAN (relating to the planet Mars or its possible inhabitants) surface. Life, if it could take hold, had a chance to thrive. And now, finally, we could find out if aliens once RESIDED (having one's home in a particular place) on the red planet!

Spell DECADE Spell TERRAIN Spell MARTIAN

What will the rover Perseverance stuff its pockets with?

ROCKS

What will happen to the rocks when they are returned to earth? They will be studied

How long will it take to study the samples? A decade/ 10 years

What word is used to describe the kind of climate exists on Mars? ARID

What do they say happened on Mars a billion years ago? WATER POOLED, WATER FLOWED OVER

MARS

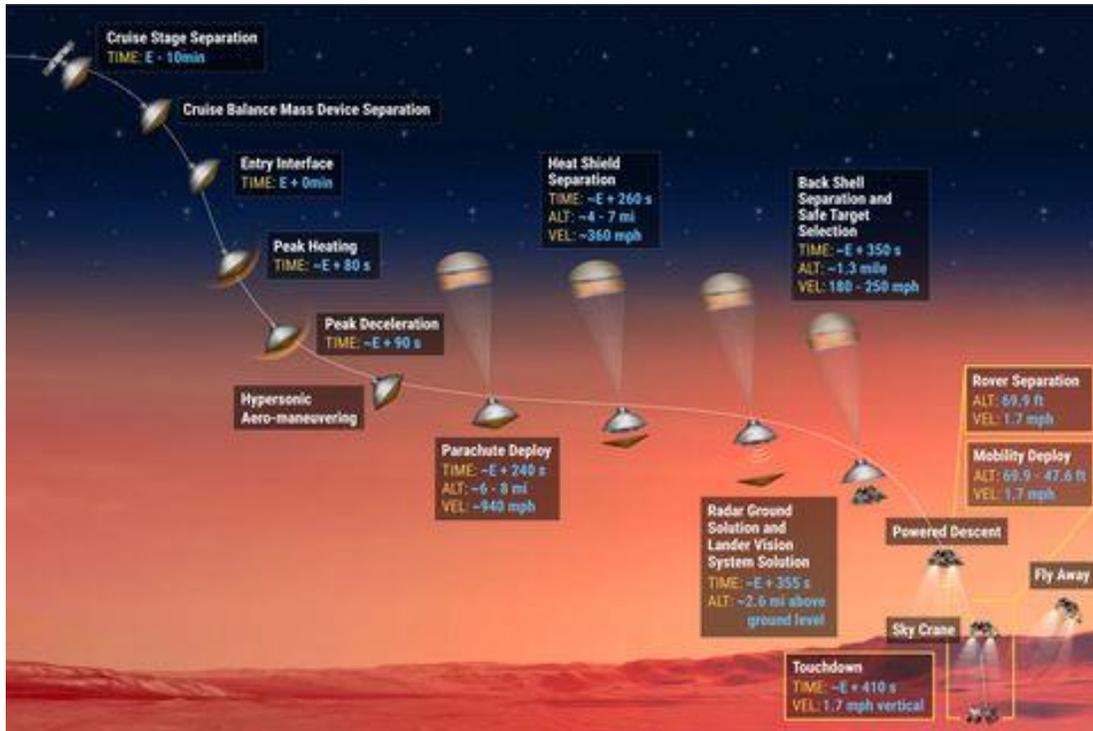
What can this mission find out about Martians? IF THEY ONCE RESIDED/LIVED ON MARS

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Name something else scientists might study?



This illustration shows the events that occur in the final minutes of NASA's Perseverance rover for it to land on the Martian surface.

Watch an epic journey unfold on Thursday, Feb. 18 as our Perseverance rover lands on Mars. To reach the surface of the Red Planet, the rover has to survive the harrowing final phase known as Entry, Descent, and Landing. (EDL)

<https://youtu.be/M4tdMR5HLtg>

Creative Writing

Pretend that astronomers have discovered friendly beings on a distant planet called Crimson. They would like to send a "welcome package" from Earth to the residents of Crimson, and you have been recruited as a representative of America to help decide what to send.

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What would your welcome package contain? Write a brief description of what you would send to the aliens of Crimson.

Now make a list of the items below that will help Crimson understand life on Earth!

Three items that represent modern life in America

Three news stories about important moments in American history

Three foods that represent American culture

Three miscellaneous items of your choice

Three descriptions of unique Earthling habits
(examples: birthday parties, spelling bees, having pets, collecting seashells, dancing, parades, building snowmen)



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Practitioners Alliance in Staten Island New York.

Sources:

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