

CLASSROOM READY Weekly News

LEVEL 1

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WEEK 31 • 2019/20

Perseverance Set to Launch

NASA is preparing to launch a **rover** named Perseverance. It will be used to explore the surface of Mars. The mission is scheduled to launch on July 17.

Preparing for a launch like this is very complex. Scientists and engineers are hard at work testing both the rover and the spaceship that will carry it into space.

The rover is like a robotic scientist. It weighs over 1000 kilograms and carries many different scientific instruments that will enable Perseverance to search the Martian soil for signs of **microscopic life**. They will also allow the rover to study Mars' **geology**.

Perseverance contains some unique tools. One is a

solar-powered helicopter. The Mars helicopter will be the first aircraft to fly on another planet. The rover will also test a piece of equipment that can create oxygen from Mars' thin, mostly carbon-dioxide atmosphere.

Perseverance will help scientists better understand the red planet and how to survive there. This will help pave the way for NASA's plan to eventually send humans to Mars.

The rover will be launched using a powerful Atlas V rocket. Perseverance must launch during a 20-day window of time between July 17 and August 5. If they miss this window, scientists must wait 26 months—until September 2022—before they can try again. The rover must be launched when Earth and Mars are close to each other. The spacecraft doesn't have

enough fuel to reach Mars if it is too far away.

After launch, it will take seven months for Perseverance to travel to Mars. Once it lands, Perseverance will join Curiosity, as a robotic explorer on Mars. Curiosity is a similar rover sent to Mars by NASA in 2011. ★



DID YOU KNOW

Perseverance also will carry 10.9 million names of Earthlings. These names were etched using a laser onto tiny silicon chips placed on the rover. Space fans were invited by NASA to submit their names through a campaign called Send Your Name to Mars.

To view videos, go to:
<http://resources.dynamic-classroom.ca/books/diqf>

Video



WORD POWER

ROVER: A vehicle specially designed to explore the surface of an extraterrestrial surface, like the Moon or Mars.

MICROSCOPIC LIFE: Organisms like bacteria that are too small to see with the naked eye.

GEOLOGY: The study of what a planet is made of, and how that changes over time.

Perseverance Set to Launch

1. Describe the rover.

2. What are some of the unique tools that Perseverance contains?

3. What will Perseverance help scientists to do?

4. When does the rover have to launch? Why?

5. How long will it take Perseverance to reach Mars?

CRITICAL THINKING

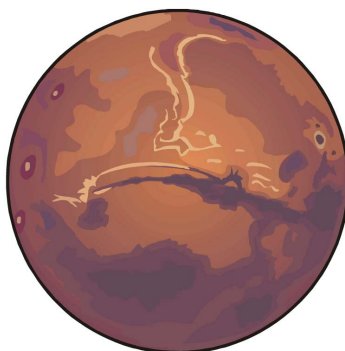
1. What are your thoughts on NASA's plan to send humans to Mars?

The Red Planet

Mars is the fourth planet from the Sun. The planet is named after Mars, the Roman god of war. The table below compares facts about Mars and Earth. Use this information to answer the questions that follow.

	EARTH	MARS
Average Distance from Sun	149 669 550 kilometres	228 527 700 kilometres
Average Speed in Orbiting Sun	29.7 kilometres per second	23.3 kilometres per second
Diameter	12 755 kilometres	6791 kilometres
Length of Year	365.25 days	687 Earth days
Length of Day	23 hours 56 minutes	24 hours 37 minutes
Average Temperature	14 degrees Celsius	-63 degrees Celsius
Atmosphere	nitrogen, oxygen, argon, others	mostly carbon dioxide, some water vapour
Number of Moons	1	2

1. What is the length of a day on Earth? _____
2. What is the length of a day on Mars? _____
3. What is the diameter of Mars? _____
4. What is the length of a year on Mars? _____
5. What is the average temperature on Earth? _____
6. Which planet has more moons? _____
7. Which planet, Earth or Mars, is closer to the sun? _____



Word Power

Using the words defined below, fill in the blank in each of the following sentences with the word that fits best. All of the words have been used in the article.

1. The meeting is _____ for two weeks from Monday.
2. The course was designed to _____ people to cook their own meals.
3. Jessica was longing to _____ the museums in Italy.
4. The two brothers looked very _____, but they weren't identical.
5. The instructions were very _____ and difficult to follow.

Complex: Made up of different parts connected in a way that is hard to understand.

Enable: To give the means or power to do something.

Etched: Engraved by using acid on a metal or glass surface.

Explore: To travel in a region that is unknown or not known well, in order to find out more about it.

Scheduled: Planned for a certain time.

Silicon: A chemical element that is not a metal and is always found combined with something else.

Similar: Almost but not exactly the same.

Unique: Unusual; remarkable.

Quiz

1. The mission is scheduled to launch on September 17.
True False
2. The scientific instruments will allow the rover to study Earth's geology.
True False
3. The rover carries many different scientific instruments that will enable Perseverance to search the Martian _____ for signs of microscopic life.
4. Perseverance contains a solar-powered _____.
5. After launch, it will take _____ months for Perseverance to travel to Mars.