



## MOXIE



1. What does MOXIE stand for?

**Mars Oxygen In-Situ Resource Utilization Experiment**

2. MOXIE uses what gas in the Martian atmosphere to make oxygen?

**Carbon dioxide (CO<sub>2</sub>)**

3. What is the maximum amount of oxygen MOXIE can produce in one hour?

**10 grams of oxygen, or 20 minutes of breathable air**

4. As well as making breathable air, what can MOXIE make in liquid form?

**Rocket fuel**



## INGENUITY



1. Why is it more difficult to fly on Mars than Earth?

**There is less atmosphere (and therefore air resistance)**

2. How many flights has Ingenuity made on Mars as of June 2022?

**29 flights**

3. Now that it's confirmed flight is possible on Mars, how is Ingenuity helping the Perseverance rover?

**It helps Perseverance see the road ahead, picking out obstacles and hazards**

4. Why might helicopters be useful for astronauts on future visits to Mars?

**It can help survey difficult to reach areas, and scout out locations for exploration or base camp.**



## MARS SAMPLE RETURN



1. What is the key goal for Mars Sample Return?

**Collecting samples of Martian rock and returning them to Earth for analysis**

2. Why is bringing samples back to Earth better than using tools on the rover to search for life?

**Researchers can use all the tools available on Earth, and use new technologies as they are developed.**

3. True or false: This is the first time we have ever brought samples back from a place outside of Earth.

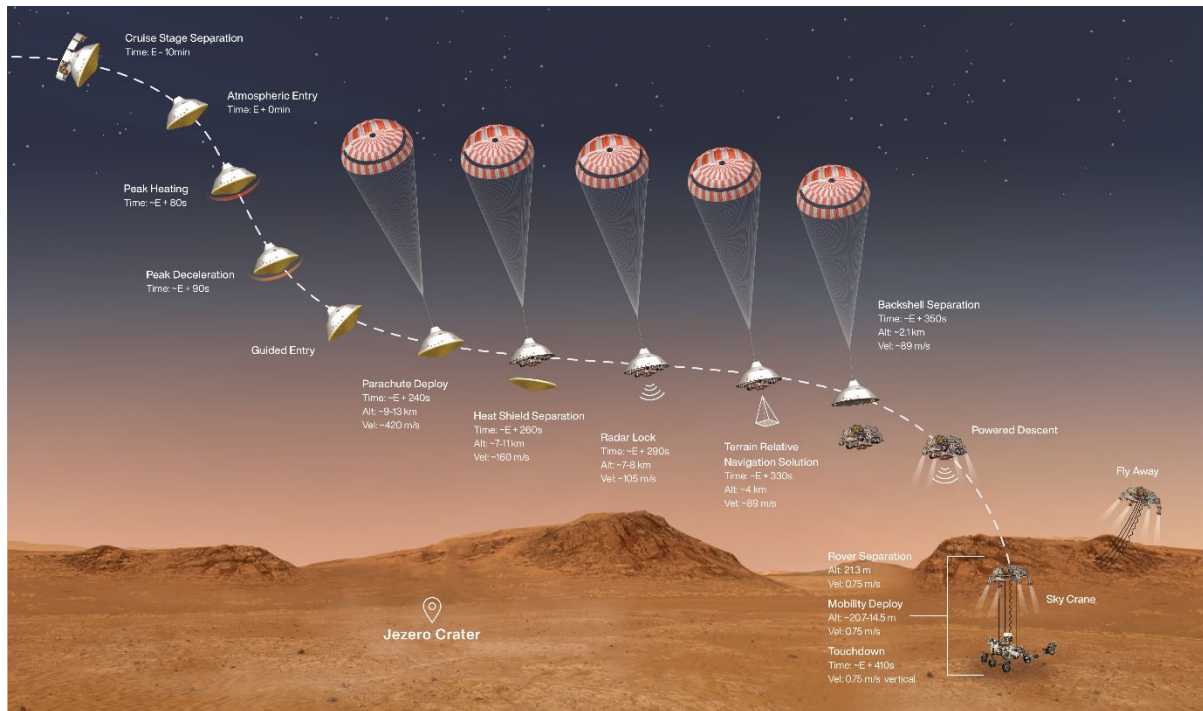
**False – we have previously returned moon and asteroid samples**

4. NASA is working with which space agency to complete the next mission in Mars Sample Return?

**European Space Agency**



## LANDING ON MARS



1. What is the official name of the part of the mission that includes landing?

**Entry, Descent and Landing (EDL)**

2. What percentage of missions to Mars have been successful?

**40 per cent**

3. Scientists sometimes call this part of the mission “seven minutes of...” what?

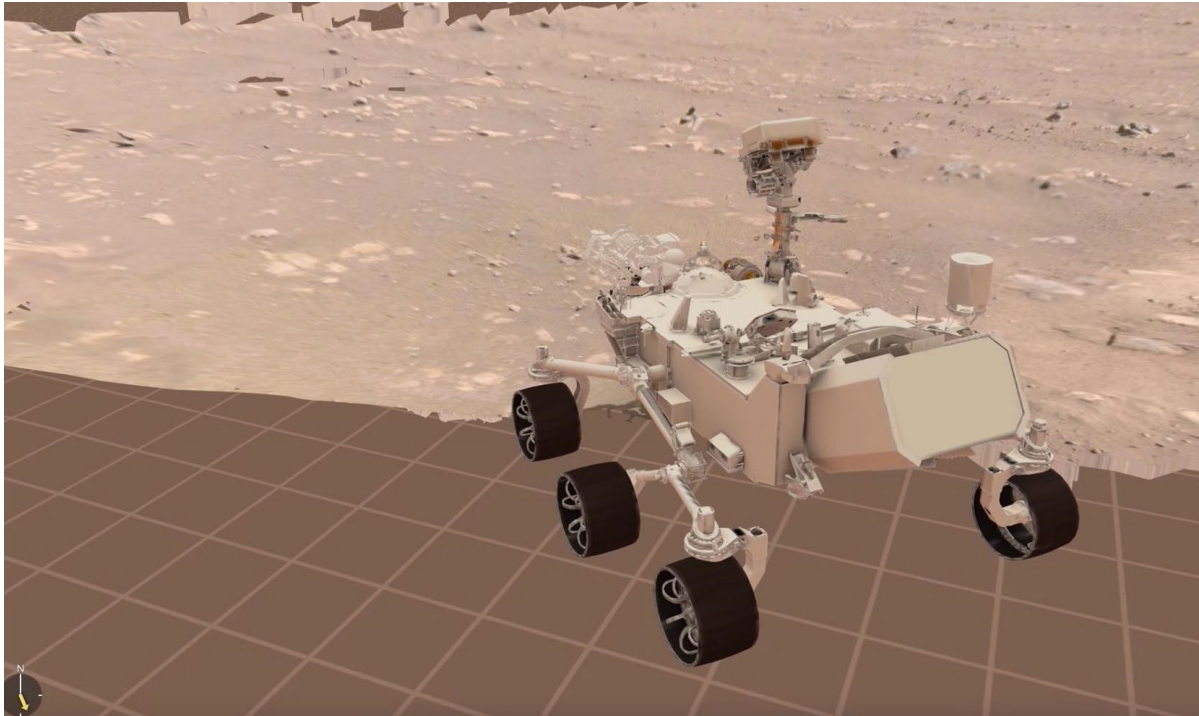
**Terror**

4. During the descent stage, Perseverance was lowered by 6-metre-long cables. What is the name of this part of the mission?

**Sky crane**



## DRIVING ON MARS



1. How long can it take for a radio signal to get from Earth to Mars or Mars to Earth?

**5 to 20 minutes**

2. What do rover drivers on Earth wear while they are planning Perseverance's next destination?

**3D glasses**

3. What is the name of the system that Perseverance uses to navigate around obstacles and hazards?

**AutoNav**

4. True or false: Humans on Earth must watch over Perseverance as it drives, and help it move around hazards in its way.

**False – AutoNav manages this without human input**