



Read the space science story carefully. Then answer each question below in a full sentence.

Look for the cause — the discovery or event — and trace each effect it produced. Space events can have surprising effects right here on Earth!

Mars Sample Quest

In February 2021, NASA's Perseverance rover successfully landed in Jezero Crater on Mars. This wasn't just any landing; Perseverance carried advanced instruments designed to search for signs of ancient microbial life and to collect rock and soil samples for eventual return to Earth. The rover began its methodical exploration, drilling into the Martian surface and sealing tiny cylinders of precious material.



The collection of these samples sparked immense excitement among planetary scientists worldwide. Each sealed tube represented a potential treasure trove of data that could answer fundamental questions about life beyond Earth. Analyzing these samples in Earth-based laboratories would allow researchers to use far more powerful tools than could ever be sent to Mars. This promise of groundbreaking discoveries fueled a strong push for the next phase: bringing the samples home.



Because of Perseverance's success, the international scientific community rallied behind the ambitious Mars Sample Return (MSR) mission. This complex endeavor involves multiple spacecraft and agencies working together to retrieve the sealed tubes from Mars and safely transport them back. The high cost and technical challenges led to intense debates within NASA and partner agencies like ESA, but the potential scientific payoff ultimately swayed funding decisions.



A Grade 5 student named Leo, who loved building intricate LEGO models, followed the MSR mission's progress closely. He imagined the robotic arms and return rockets, sketching his own designs in a notebook. He knew that if these samples revealed evidence of past life, it would not only rewrite science textbooks but also inspire a new generation of engineers, like him, to build the future of space exploration.

COMPREHENSION QUESTIONS

(1) Which of these BEST explains why the Mars Sample Return (MSR) mission gained strong support? 🚀

- (A) It was the cheapest way to explore Mars.
- (B) Scientists wanted to analyze Martian samples with powerful Earth-based tools.
- (C) Leo designed a new rocket for the mission.
- (D) NASA had extra money in its budget.

(2) What caused immense excitement among planetary scientists after Perseverance collected samples? 🤖

(3) What was one direct effect of the Perseverance rover's success in collecting samples on Mars? ✨



(4) Describe how Perseverance's sample collection led to a scientific mission and then inspired students like Leo. 🧑🏻‍🎓

(5) What might have happened if the Perseverance rover had NOT successfully collected samples on Mars? Explain. 🌍

(6) What specific aspect of the MSR mission inspired Leo, the Grade 5 student? 💡

