A Robot Explorer Finally Reaches Mercury

After eight years in space, BepiColombo is now circling the closest planet to the sun.



A two-part spacecraft orbits the gray planet Mercury near the bright sun.

A robot spacecraft named BepiColombo has reached Mercury, the planet closest to the sun. According to reporting by Live Science, mission scientists confirmed that it entered **orbit** on Saturday, November 21. Orbit means it is moving around a planet, pulled by **gravity** instead of flying past.

This is a big space moment because Mercury is hard to reach. It is so close to the sun that the sun's gravity can pull a spacecraft off course. BepiColombo took eight years to get there. It launched in October 2018. On the way, it flew past Earth, the moon, Venus, and Mercury itself. Those **flybys** helped change its path and speed, like careful pushes in space.

Only one other spacecraft has ever orbited Mercury before. That was NASA's MESSENGER probe, which circled the planet from 2011 to 2015. A probe is a robot explorer that carries tools instead of people. BepiColombo is really two **probes** riding together. One was built by the European Space Agency. The other was built by Japan's space agency.

The trip was not perfect at the end. A **software glitch**, or computer problem, kept the spacecraft's thrusters from firing for the full planned time. Thrusters are small **engines** that help steer and slow a spacecraft. The European Space Agency said BepiColombo is safe. Scientists are checking exactly where it is and what happens next.

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If the mission continues as planned, the two probes will soon split apart. They will take different paths around Mercury. That lets them study the planet from different places. One probe is expected to begin its main science work in April.

The probes will make the most detailed map of Mercury yet. They will measure things people cannot see with eyes, including X-rays and ultraviolet light. They will also study Mercury's magnetic field. A magnetic field is an invisible force around a planet.

Inside a control room, the scene would not look like a rocket launch. It would be quieter. People would watch screens. Tiny signals would travel across space from a machine near Mercury to Earth.

This matters because every careful space trip teaches scientists how planets work. Mercury is the least-explored planet in our solar system, according to the report. Learning more about it may help scientists understand how rocky planets form and change. Earth is a rocky planet too.

Written from reporting by Live Science.

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THINK IT THROUGH

1. Was it worth spending eight years to send a robot to Mercury? Defend your answer.

2. Why might two probes be better than one for studying the same planet?

3. What should scientists do when a mission has a problem but the spacecraft is still safe?

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E N G I N E S P T C
H S N N S O I R K L
I N R E O O R O R L
E A S Y F L Y B Y S
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ENGINES FLYBYS GLITCH GRAVITY ORBIT PROBES SOFTWARE

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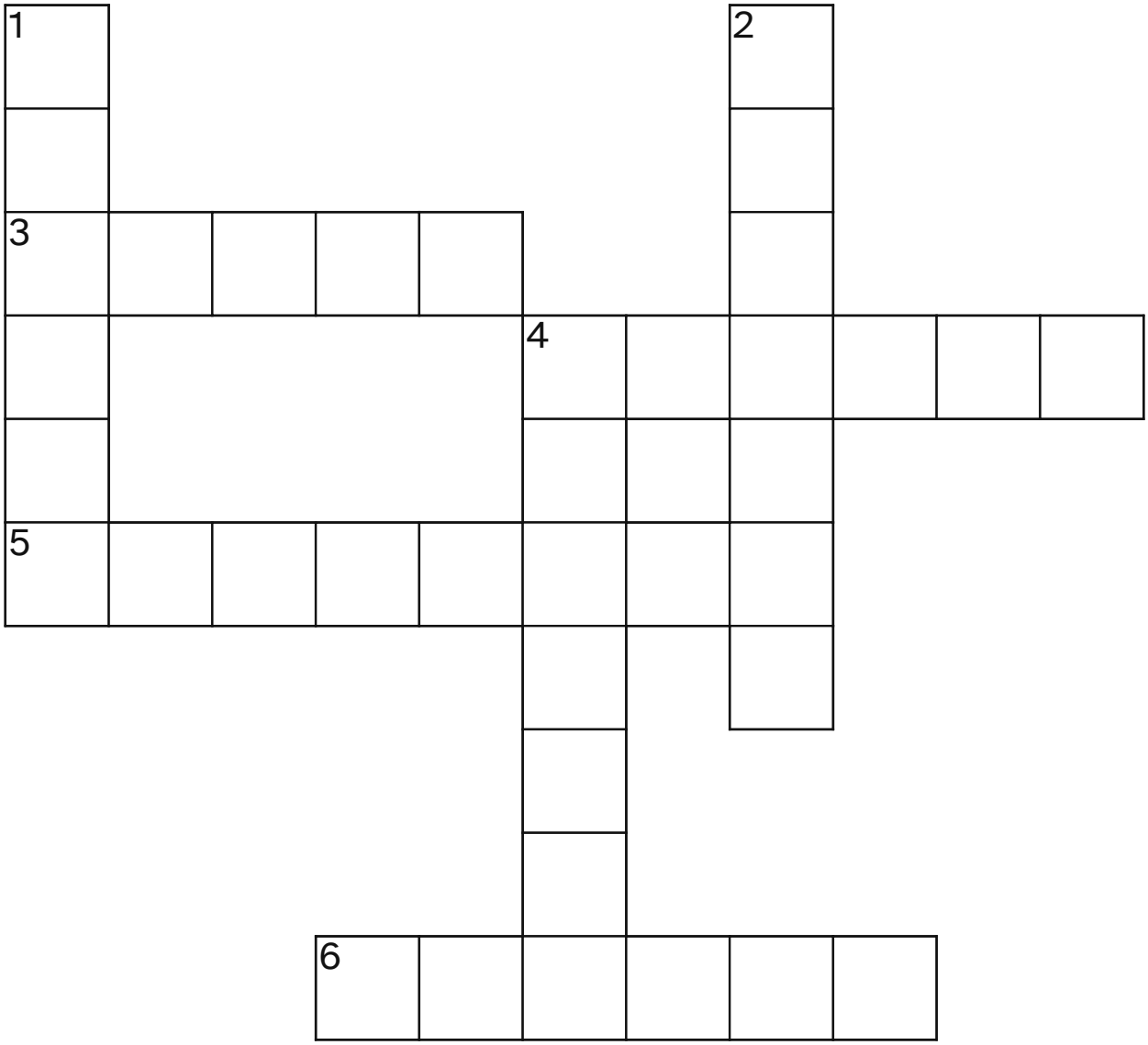

ACROSS

3 Path a space object follows around a larger one

4 Small computer error that makes something work wrong

5 Programs that tell a computer what to do

6 Close passes near planets that can change a spacecraft's course or speed

DOWN

1 Robot explorers with tools for studying hard-to-reach places

2 Machines that give a craft power to move or turn

4 Pulling force between objects

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Where this came from

This article was written for 3andB from the reporting below. It is not a reprint — the wording is ours and the facts are theirs.

Live Science

"BepiColombo ends 8-year interplanetary journey to Mercury. What's next for the ambitious spacecraft?"

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https://www.livescience.com/space/bepicolombo-spacecraft-becomes-2nd-ever-mission-to-orbit-mercury-ending-8-year-interplanetary-journey

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The article and its discussion questions, a word search, and a crossword.

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