NASA spacecraft successfully deflected asteroid's orbit in 'Earth rescue' experiment.

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The spacecraft's impact carved a large crater into the asteroid Dimorphos, sending debris flying into space and creating a dust trail. This dust trail transformed Dimorphos into a man-made comet.

The collision shortened the asteroid's orbit from 11:55 to 11:23, exceeding NASA's forecast by 10 minutes.

At 6:14 AM on September 27th (Hanoi time), NASA's DART spacecraft collided with the asteroid Dimorphos, 11 million kilometers from Earth, in a mission to deflect the dangerous object hurtling toward Earth. According to NASA, this was the world's first planetary defense experiment.

The DART spacecraft was about the size of a golf cart, weighed 600 kg, and was traveling at 22,500 km/h when it crashed into Dimorphos.

NASA hopes the collision will be enough to cause the 163-meter-long asteroid Dimorphos to move faster in its orbit around its host.

Planetary scientist Nancy Chabot, lead coordinator of DART at the Johns Hopkins University Applied Physics Laboratory (JHUAPL), who oversaw the mission, shared that the collision was like a golf cart crashing straight into the Great Pyramid.

Most of DART's final hours on this journey occurred automatically. The spacecraft's navigation system locked onto Dimorphos, and the main camera sent a picture of Earth every second until the spacecraft crashed into the asteroid and the screen went black.

Dimorphos is an asteroid with a diameter of 162m, part of the Didymos binary asteroid system, along with the smaller asteroid Dimorphos, also 162m in diameter. From late September to early October, around the time of the collision with DART, Didymos and Dimorphos will be approximately 10.8 million km from Earth.

Since the beginning of 2021, scientists have been studying and taking measurements to ensure DART arrives at the correct location and time for a collision with Dimorphos. By August 2022, scientists had used some of the world's most powerful telescopes to observe and confirm initial calculations about Dimorphos's orbit around its larger parent asteroid, Didymos, to ensure DART arrived at the correct location and time for the collision.

Weeks before the collision, DART deployed a small satellite called LICIACube to observe and photograph the impact with the asteroid. In a few days, the images will be sent back to Earth, revealing a close-up view of the impact.

The European Space Agency is planning a mission called Hera to study two asteroids and the crater created by DART on Dimorphos. A spacecraft will be launched in 2024 and reach the binary system's orbit in 2027.