

Global Space Race Heats Up: China's Asteroid Mission, India's Docking Tech

Space Exploration · Answer Key · 12 Questions

1. What is the primary objective of China's Tianwen-2 mission, launched in May 2025?

- A) To land astronauts on Mars
- B) To collect samples from a near-Earth asteroid and study a comet**
- C) To establish a permanent lunar base
- D) To deploy a new space telescope for observing distant galaxies

2. In January 2025, India achieved a significant milestone in space technology with the successful demonstration of what capability?

- A) In-orbit satellite refueling
- B) Autonomous asteroid rendezvous and sample collection
- C) Spacecraft rendezvous, docking, and undocking using indigenous technology**
- D) Reusable rocket booster landing

3. The James Webb Space Telescope (JWST), in early 2025, revealed unexpected findings about which primordial galaxy, designated JADES-GS-z14-0?

- A) Its unusually simple chemical composition
- B) Its extremely low star formation rate
- C) Its unexpected brightness and complex chemical composition for its early age**
- D) Its lack of any detectable molecular carbon in its atmosphere

4. NASA's Artemis II mission, a crewed flight around the Moon, is now targeted for September 2025. What was a primary reason cited for the schedule adjustment?

- A) Testing the new lunar lander's capabilities
- B) Troubleshooting a battery issue and addressing circuitry challenges for ventilation and temperature control**
- C) Integrating new scientific instruments for lunar surface research
- D) Finalizing the construction of the Lunar Gateway space station

5. Which ESA mission, launched in September 2024, aims to evaluate the performance of NASA's DART mission by studying the Didymos binary asteroid system?

- A) Hera**
- B) JUICE
- C) BepiColombo
- D) EarthCARE

6. China's Chang'e-6 mission achieved a significant first by returning samples from which region of the Moon in June 2024?

- A) The lunar south pole
- B) The far side of the Moon**
- C) The Sea of Tranquility
- D) The Aristarchus crater

7. In February 2025, NASA plans to launch the Spectro-Photometer for the History of the Universe, Epoch of Reionization and Ices Explorer (SPHEREx) observatory. What is its primary objective?

- A) To study the Sun's corona in detail
- B) To survey the sky in near-infrared light, creating a comprehensive map of galaxies and stars**
- C) To investigate the atmospheric composition of Jupiter's moon Europa
- D) To search for biosignatures on Mars

8. What key technological milestone did India's SpaDeX mission, successfully demonstrated in January 2025, achieve?

- A) The ability to land a rover on an extraterrestrial body
- B) The first demonstration of autonomous orbital docking and undocking using indigenous technology**
- C) The successful deployment of a solar observatory
- D) The creation of artificial gravity in a space station module

9. The European Space Agency (ESA) is planning an orbital test flight of its uncrewed Space Rider spacecraft in the third quarter of 2025. What is Space Rider designed to do?

- A) Conduct long-duration human missions to Mars
- B) Carry out scientific experiments in low Earth orbit and demonstrate reusable spacecraft technologies**
- C) Explore the icy moons of Jupiter
- D) Collect samples from asteroids for return to Earth

10. NASA's Perseverance rover, in September 2025, had its findings regarding the 'Sapphire Canyon' rock sample peer-reviewed in the journal Nature. What did these findings suggest?

- A) The presence of liquid water on Mars in the recent past
- B) The discovery of a new type of organic molecule
- C) Potential biosignatures indicating ancient microbial life processes**
- D) Evidence of active volcanic activity on Mars

11. China's space station has become a platform for international cooperation. In February 2025, an agreement was signed with which country to cooperate on astronaut selection and training for China's space station mission?

- A) Russia
- B) India
- C) Pakistan**
- D) Brazil

12. The ESA's Ariane 6 rocket is set for its debut launch in July 2024, with plans for a new version to launch experiments in orbit. What is a notable capability of this new version of Ariane 6?

- A) It will be powered entirely by solar energy
- B) It will feature Europe's demonstration of 3D printing in space (Replicator)**
- C) It is designed for direct atmospheric entry and landing
- D) It will exclusively carry payloads for lunar missions