

Forensic Science in the Cosmos

Space Forensics · Practice Test · 8 Questions

1. Which forensic method is primarily used to determine the age of rocks brought back from the Moon?

- A) Radiometric dating
- B) Fingerprint analysis
- C) DNA sequencing
- D) Ballistic trajectory
- E) Radiometric dating

2. What is the primary forensic technique used to identify the chemical composition of stars by analyzing their emitted light?

- A) Carbon dating
- B) Spectroscopy
- C) Chromatography
- D) Gas chromatography
- E) Spectroscopy

3. Which forensic evidence category do micrometeoroids fall under when analyzing impact craters on spacecraft shielding?

- A) Biological evidence
- B) Ballistic and physical evidence
- C) Digital evidence
- D) Trace chemical evidence
- E) Ballistic and physical evidence

4. In the context of planetary protection, what is the forensic goal of 'bio-burden' testing on spacecraft intended for Mars?

- A) Detecting extraterrestrial life
- B) Ensuring no Earth bacteria contaminate samples
- C) Measuring gravity fluctuations
- D) Analyzing magnetic fields
- E) Ensuring no Earth bacteria contaminate samples

5. What forensic analysis of a meteorite's 'fusion crust' helps investigators determine its path through Earth's atmosphere?

- A) Thermal and aerodynamic erosion patterns
- B) DNA analysis
- C) Isotope signature matching
- D) Reflection coefficient measurement
- E) Thermal and aerodynamic erosion patterns

6. Which specialized forensic technique is utilized to examine extraterrestrial dust grains collected by the Stardust mission?

- A) Scanning Electron Microscopy (SEM)
- B) Fingerprint dusting
- C) Polygraph testing
- D) DNA profiling
- E) Scanning Electron Microscopy (SEM)

7. To determine if a piece of debris originated from a man-made satellite, forensic investigators often analyze which specific physical marker?

- A) The astronomical constellation coordinates
- B) Serial numbers and alloy composition
- C) The color of the dust
- D) The temperature of the vacuum
- E) Serial numbers and alloy composition

8. What does the forensic study of 'impact glass' found on planets reveal about past celestial events?

- A) The frequency of cosmic dust storms
- B) The pressure and temperature of past asteroid collisions
- C) The rotation speed of the planet
- D) The atmospheric oxygen levels
- E) The pressure and temperature of past asteroid collisions