

Cosmic Calamities: Natural Disasters Beyond Earth

Natural Disasters · Answer Key · 8 Questions

1. Which terrestrial planet in our solar system is known for its extreme volcanic activity, including massive shield volcanoes like Olympus Mons, the largest volcano in the solar system?

- A) Mercury
- B) Venus
- C) Mars**
- D) Earth

2. What phenomenon, often observed as spectacular aurorae on Earth, is caused by charged particles from the Sun (solar wind) interacting with a planet's magnetic field?

- A) Meteor showers
- B) Solar flares
- C) Geomagnetic storms**
- D) Cosmic rays

3. Jupiter's Great Red Spot is a persistent, high-pressure region in the atmosphere, generating an anticyclonic storm. What is the approximate scale of this storm compared to Earth?

- A) About the size of Africa
- B) About three times the diameter of Earth**
- C) About the size of the Moon
- D) About the size of Australia

4. Which celestial body is primarily known for its catastrophic impacts, with evidence suggesting a massive impact event may have contributed to the extinction of its dinosaurs?

- A) The Moon
- B) Mars
- C) Venus
- D) Earth**

5. The 'Tidal Locking' phenomenon, where one side of a celestial body permanently faces another, is common for moons orbiting planets. What is a potential consequence of extreme tidal forces on a moon, similar to those experienced by Jupiter's moon Io?

- A) Formation of rings
- B) Intense volcanic activity**
- C) Atmospheric stripping
- D) Extreme temperature fluctuations

6. What type of stellar event, a catastrophic explosion of a star, can release immense amounts of energy and heavy elements into the universe, potentially posing a threat to life on nearby planets?

- A) Nebula formation
- B) Black hole merger
- C) Supernova**
- D) Pulsar rotation

7. The concept of a 'rogue planet' refers to a celestial body that does not orbit a star. If such a planet were to enter our solar system, what kind of gravitational disaster could it potentially cause?

- A) Increased solar radiation
- B) Disruption of planetary orbits**
- C) Formation of new moons
- D) Expansion of the Sun

8. Saturn's moon Enceladus exhibits cryovolcanism, with geysers erupting from its south polar region. What is ejected from these geysers?

- A) Molten rock
- B) Hot gases like sulfur dioxide
- C) Water ice and vapor**
- D) Liquid methane