

Cosmic Facts: A Physical Science Quiz

Physical Science · Answer Key · 15 Questions

1. What is the primary component of the Sun, making up approximately 74% of its mass?

- A) Helium
- B) Oxygen
- C) Hydrogen**
- D) Carbon

2. Which planet in our solar system is known for its prominent rings, composed mainly of ice particles and dust?

- A) Jupiter
- B) Saturn**
- C) Uranus
- D) Neptune

3. What phenomenon causes the Earth's magnetic field, protecting us from harmful solar wind?

- A) Convection currents in the mantle
- B) The movement of molten iron in the outer core**
- C) The gravitational pull of the Moon
- D) The reflection of sunlight off the atmosphere

4. The Great Red Spot on Jupiter is a persistent storm that has been observed for centuries. What gas is believed to be responsible for its distinct red color?

- A) Methane
- B) Ammonia
- C) Sulfur compounds**
- D) Nitrogen

5. Which of the following is the closest star to Earth, besides our Sun?

- A) Sirius
- B) Alpha Centauri A
- C) Proxima Centauri**
- D) Barnard's Star

6. What is the term for a region of spacetime exhibiting such strong gravitational effects that nothing--not even particles and electromagnetic radiation such as light--can escape from inside it?

- A) Nebula
- B) Quasar
- C) Pulsar
- D) Black hole**

7. Which terrestrial planet has the highest average surface temperature in our solar system?

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

8. The process by which stars generate energy is called nuclear fusion. What element is primarily fused into helium during this process in stars like our Sun?

- A) Carbon
- B) Oxygen
- C) Hydrogen**
- D) Iron

9. What celestial bodies are remnants of stars that have exhausted their nuclear fuel and collapsed, often resulting in a dense core?

- A) Comets
- B) Asteroids
- C) White dwarfs**
- D) Meteoroids

10. Which planet is tilted on its side at an axial tilt of approximately 98 degrees, causing extreme seasonal variations?

- A) Saturn
- B) Uranus**
- C) Neptune
- D) Mars

11. What is the name of the galaxy that contains our solar system?

- A) Andromeda Galaxy
- B) Triangulum Galaxy
- C) Milky Way Galaxy**
- D) Whirlpool Galaxy

12. The distance light travels in one year is known as a light-year. What is the approximate speed of light in a vacuum?

A) 300,000 kilometers per hour

B) 300,000 kilometers per second

C) 150,000 miles per hour

D) 150,000 miles per second

13. What is the name given to a celestial body consisting of a nucleus of ice and dust and, when near the Sun, a 'tail' of gas and dust particles pointing away from the Sun?

A) Asteroid

B) Meteor

C) Comet

D) Planetoid

14. Which layer of the Sun's atmosphere is the outermost layer, visible during a solar eclipse as a faint halo?

A) Photosphere

B) Chromosphere

C) Corona

D) Radiative Zone

15. The expansion of the universe is evidenced by the redshift of light from distant galaxies. What does redshift indicate?

A) Galaxies are moving towards us

B) Galaxies are moving away from us

C) Galaxies are stationary

D) The universe is contracting