Cosmology for Young Explorers

Cosmology · Answer Key · 18 Questions

1. What is the name of the theory that describes the origin of the universe starting from a hot, dense state about 13.8 billion years ago?

A) The Steady State Theory
B) The Big Bang Theory
C) The Inflation Theory
D) The Nebula Hypothesis

2. Which force is primarily responsible for holding galaxies together and pulling matter together to form stars?

A) Magnetism
B) Friction
C) Gravity
D) Nuclear Force

3. What is the mysterious substance that makes up about 27% of the universe and does not emit, absorb, or reflect light?

A) Dark Matter
B) Dark Energy
C) Normal Matter
D) Antimatter

4. What is the name of the galaxy that contains our Solar System?

A) Andromeda
B) Sombrero
C) Milky Way
D) Triangulum

5. What type of galaxy is the Milky Way classified as, due to its rotating disk and spiral arms?

A) Elliptical
B) Irregular
C) Spiral
D) Lenticular

6. Approximately how old do scientists estimate the universe to be?

A) 4.5 billion years
B) 13.8 billion years
C) 20 billion years
D) 1.2 billion years

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7. Which element is the most abundant in the universe, making up about 75% of its normal matter?

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

8. What is the name for the huge clusters of galaxies that are connected by filaments, forming the largest structures in the universe?

A) Cosmic Web
B) Star Clouds
C) Black Holes
D) Nebulae

9. What is the term for a region of space where gravity is so strong that not even light can escape?

A) Supernova
B) White Dwarf
C) Black Hole
D) Pulsar

10. What is the name of the effect where light from distant galaxies is stretched as the universe expands, causing it to appear redder?

A) Blue shift
B) Redshift
C) Doppler shift
D) Light bending

11. Which instrument is a space telescope famous for capturing deep-field images of the early universe?

A) Hubble Space Telescope
B) International Space Station
C) Voyager 1
D) Galileo Probe

12. What do scientists call the mysterious force that is causing the expansion of the universe to accelerate?

A) Dark Energy
B) Solar Wind
C) Gravity
D) Magnetic flux

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13. Which of these is considered the 'building block' of galaxies?

A) Planets
B) Stars
C) Comets
D) Asteroids

14. What is the faint, uniform microwave radiation that fills the entire universe, often called the 'afterglow' of the Big Bang?

A) Cosmic Microwave Background
B) Solar Flare radiation
C) Gamma Ray Burst
D) Stellar wind

15. What is the center of our galaxy, the Milky Way, believed to contain?

A) A giant cloud of gas
B) A supermassive black hole
C) A dense cluster of planets
D) An empty void

16. Approximately how many galaxies are estimated to exist in the observable universe?

A) One thousand
B) One million
C) Hundreds of billions
D) Only our own

17. What is the study of the origin, evolution, and eventual fate of the universe called?

A) Biology
B) Geology
C) Meteorology
D) Cosmology

18. Which of these is the term for a massive explosion that occurs at the end of a very large star's life cycle?

A) Supernova
B) Nebula
C) White Dwarf
D) Red Giant

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