

Space Systems Study Sheet

1. solar system
Collection of planets, moons, asteroids, and comets orbiting around the Sun.
2. galaxy
Large system of stars, gas, dust, and dark matter held together by gravity.
3. star
Luminous celestial body consisting of hot gas that generates light and heat through nuclear fusion.
4. planet
Celestial body that orbits a star, is spherical in shape, and has cleared its orbit of other debris.
5. moon
Natural satellite orbiting a planet, reflecting light from the Sun.
6. asteroid
Small rocky body orbiting the Sun, found primarily in the asteroid belt between Mars and Jupiter.
7. comet
Small icy body orbiting the Sun, consisting of dust, rock, and frozen gases that vaporize near the Sun, producing a visible coma and tail.
8. Universe
All of space and time and their contents, including galaxies, stars, planets, and cosmic phenomena.
9. Big Bang theory
Cosmological model describing the rapid expansion of the universe from a hot, dense state approximately 13.8 billion years ago.
10. cosmic microwave background radiation
Faint glow of electromagnetic radiation filling the universe, considered a remnant of the Big Bang.
11. redshift
Phenomenon where light from distant galaxies is shifted toward longer (redder) wavelengths due to the expansion of the universe.
12. supernova
Powerful explosion marking the death of a massive star, releasing an immense amount of energy and creating heavy elements.
13. black hole
Region of spacetime where gravity is so strong that nothing, not even light, can escape.
14. nebula
Interstellar cloud of dust, hydrogen, helium, and other ionized gases where stars are born.
15. Hubble Space Telescope
Space observatory orbiting Earth, providing valuable data and images of distant galaxies and cosmic phenomena.
16. Milky Way
Spiral galaxy containing our solar system, consisting of billions of stars, dust, and gas.
17. constellation
Recognizable pattern of stars in the night sky named after mythological figures, animals, or objects.
18. light-year
Unit of astronomical distance equal to the distance light travels in one year, approximately 9.46 trillion kilometers.