

Chapter 30 Vocab

1. Photosphere- the lowest layer of the Sun's atmosphere, approximately 400km in thickness. The visible surface of the Sun
2. Chromosphere- above the photosphere, approximately 2500km in thickness and temp of 30000K. Not visible unless during a solar eclipse
3. Corona- top layer of the Sun's atmosphere that extends from the top of the chromosphere and ranges in temp from 1 million to 2 million K
4. Solar Wind- Wind of charged particles that flows throughout the solar system and begins as gas flowing outward from the Sun's corona at high speeds
5. Fission- Process in which heavy atomic nuclei split into smaller, lighter nuclei
6. Fusion- Process in a star's core in which lightweight hydrogen nuclei combine into heavier helium nuclei
7. Prominence- Arc of gas ejected from the chromosphere or gas that condenses in the Sun's inner corona and rain back to the surface, that can reach temperatures over 50,000K and is associated with Sun spots
8. Solar Flare- Violent eruption of radiation and particles from the Sun's surface that is associated with sunspots
9. Spectrum- Arrangement of visible light ordered according to wavelength
10. Sunspot- Dark spot on the surface of the photosphere that typically last two months, occurs in pairs, and has a penumbra and an umbra

11. Absolute Magnitude- Brightness an object would have if it were placed at a distance of 10 pc; classification system for stellar brightness that can be calculated only when the actual distance of the star is known.
12. Apparent Magnitude- classification system based on how bright a star appears to be; does not take distance into account so cannot indicate how bright a star actually is
13. Binary Star- Describes two stars that are bound together by gravity and orbit a common center of mass
14. Constellation- group of stars that forms a pattern in the sky that resembles an animal, mythological character, or everyday object
15. HR Diagram- graph that relates stellar characteristics- class, mass, temperature, magnitude, diameter, and luminosity.
16. Luminosity- Energy output from the surface of a star per second; measured in watts.
17. Main sequence- in an hr diagram, the broad, diagonal band that includes about 90 percent of all stars and runs from hot, luminous stars in the upper-left corner to cool, dim stars in the lower-right corner
18. parallax- apparent positional shift of an object caused by the motion of the observer.
19. Black Hole- Small, extremely dense remnant of a star whose gravity is so immense that not even light can escape its gravity field
20. Nebula- Large cloud of interstellar gas and dust that collapses on itself, due to its own gravity, and forms a hot, condensed object that will become a new star

21. Neutron star- collapsed, dense core of a star that forms quickly while its outer layers are falling inwards, has a radius of about 10km, a mass 1.5 to 3 times that of the Sun, a contains only neutrons
22. Prostar- Hot, condensed object at the center of a nebula that will become a new star when nuclear fusion reactions begin
23. Supernova- Massive explosion that occurs when the outer layers of a star are blown off.