Earth Science Chapter 29: Stars

1. **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 when the actual distance to a star is known
2. **absorption spectrum**	produced when visible light passed through a cool gas under low pressure
3. **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
4. **aurora**	brilliant light/effects of solar flares
5. **binary star**	one of two stars that are bound together by gravity and orbit common center of mass
6. **black hole**	small, extremely dense remnant of a star whose gravity is so immense that not even light can escape its gravitational field
7. **blue shift**	wavelengths of light get shorter (compressed) because the object is moving toward the other object
8. **chromosphere**	layer of the sun's atmosphere above the photosphere and below the corona that is about 2500 km thick and has a temperature around 30,000 K at its top
9. **constellation**	group of stars that forms a pattern in the sky that resembles an animal, mythological character, or everyday object
10. **continuous spectrum**	an uninterrupted band of light emitted by an incandescent solid, liquid or gas under pressure
11. **corona**	top layer of the Sun's atmosphere that extends from the top of the chromosphere and typically ranges in temperature from 3 million to 5 million K
12. **doppler effect**	change in the apparent frequency of a wave as observer and source move toward or away from each other
13. **electromagnetic spectrum**	complete range of electromagnetic waves placed in order of increasing frequency
14. **emission spectrum**	produced by a hot gas under low pressure
15. **fission**	process in which heavy atomic nuclei split into smaller lighter atomic nuclei
16. **fusion**	matter is converted to energy/hydrogen converts to helium/15 million k
17. **Hertzsprung-Russell diagram**	graph that relates stellar characteristics--class, mass, temperature, magnitude, diameter, and luminosity
18. **luminosity**	energy output from the surface of a star per second; measured in watts
19. **magnetosphere**	sphere of magnetism around the earth
20. **main sequence**	in an H-R 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
21. **nebula**	large cloud of interstellar gas and dust that collapses on itself, due to its own gravity, and may form a hot, condensed object that may become a new star
22. **neutron star**	collapsed, dense core of a star that forms quickly while its outer layers are falling inward, has a radius of about 10 km, a mass 1.4 to 3 times that of the Sun, and contains mostly neutrons
23. **parallax**	apparent positional shift of an object caused by the motion of the observer
24. **photosphere**	lowest layer of the Sun's atmosphere that is also its visible surface, has an average temperature of 5800 K, and is about 400 km thick
25. **prominence**	arc of gas ejected from the chromosphere, or gas that condenses in the Sun's inner corona and rains back to the surface, that can reach temperatures over 50,000 K and is associatied with sunspots
26. **protostar**	hot, condensed object at the center of a nebula that may become a new star when nuclear fusion reaction begins
27. **pulsar**	a spinning neutron star that exhibits a pulsing pattern
28. **red shift**	wavelengths of light emitted get longer because the object emitting the light is moving away from the other object
29. **solar flare**	violent eruption of radiation and particles from the sun's surface that is associated with sunspots
30. **solar wind**	wind of charged particles (ions) that flows throughout the solar system and begins as gas flowing outward from the Sun's corona at high speeds
31. **spectroscopy**	the study of the properties of light that depend on wavelength

32.	**sunspot**	dark spot on the surface of the photosphere; occur in pairs
33.	**supernova**	massive explosion that occurs when the outer layers of a star are blown off