

50 Earth Science Facts that will help you pass the mid-term exam

(these are not the only things you need to know, but they will certainly help)

1. Earth is closest to the sun in January.
2. Equator always has 12 hours of daylight.
3. Equinoxes: March 21st and September 23rd
4. Foucault's pendulum and the coriolis effect prove the earth rotates
5. FOUCAULT'S PENDULUM: appears to change its direction of swing.
6. Geocentric: Earth centered; Heliocentric: sun centered
7. Latitude lines go east-west, just like the equator, but measure distances north or south.
8. Longitude is based on observations of the sun.
9. Longitude lines go north-south, but measure distances east or west.
10. Our solar system is located on one of the outer arms of our Milky Way Galaxy
11. Planets APPEAR to go backwards (retrograde) as the earth passes them in space.
12. Summer solstice is June 21st
13. The altitude of Polaris equals your latitude.
14. The best model of the earth's shape is a sphere.
15. The closer a planet is to the sun the higher it's velocity
16. The closer isolines (contour-isobar-isotherm) are, the steeper the slope or gradient.
17. The earth revolves counterclockwise ($365\frac{1}{4}$ days).
18. The earth rotates west to east (24 hours).
19. The lower the altitude of the sun, the longer shadows it casts.
20. The moon has phases because of the angle at which we view its surface (Remember though: half is always lit).
21. The same substance always has the same density.
22. The formula for density is $D=m/v$
23. The true shape of the earth is an OBLATE SPHEROID.
24. The universe began with a big explosion--"The Big Bang"
25. To determine the earth's circumference, the altitude of the sun at TWO locations is needed.
26. Vertical rays (overhead sun) can only occur between $23\frac{1}{2}^{\circ}\text{N}$ and $23\frac{1}{2}^{\circ}\text{S}$
27. Earth's axis is tilted $23\frac{1}{2}^{\circ}$ to the ecliptic plane.
28. Winter solstice is December 21st
29. Hertzsprung-Russell Diagram compares temperature and luminosity of stars.
30. Red Giants are cooler stars than white dwarfs.
31. The Sun is a main sequence star.
32. Sunspots are cooler areas on the Sun's surface, and go through a cycle every 11 years.

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33. As you move away from the Sun's core the layers become cooler, with the odd exception of the corona.
34. Sun's light is produced by the nuclear fusion of hydrogen atoms into helium.
35. The farthest distance of a planet from the sun is the aphelion.
36. Refracting telescopes only use lenses, reflecting telescopes use at least one mirror in combination with a lens.
37. A comet's tail always points away from the sun.
38. The red shift of light is an indication that the star is moving away from us.
39. According to Kepler's First Law, all orbits of planets are ellipses.
40. The period from one full moon to the next is 29.5 days, but the time it takes for the moon to fully revolve around the Earth is 27.3 days.
41. Meteors occur when meteoroids enter the Earth's atmosphere, and meteorites occur only when they strike the Earth's surface.
42. Spring tides only occur during new and full moons, neap tides occur at quarter moons.
43. Astronomical Unit is the Earth's average distance from the Sun, approximately 150 million kilometers.
44. Galileo was first to use a telescope to view the sky, and found evidence for the heliocentric model of the solar system.
45. Lunar eclipse only occurs during full moon and is visible to more of the Earth than a solar eclipse.
46. Solar eclipse only occurs during new moon.
47. Power of a telescope depends upon the radius of the objective mirror or lens.
48. As wavelength increases the frequency decreases.
49. Higher the frequency the warmer the object, because more frequency means more energy.
50. All the energies of the electromagnetic spectrum travel at the same speed (speed of light) in waves.