Name _____ Astronomy 2

Period _____ Date _____ Earth Science

1. The elliptical shape of planetary orbits causes the planets to vary in _distance____ from the sun during revolution.
2. The Earth is closer to the sun in the ___winter_____.
3. The Earth is farther from the sun in the _____summer_____.
4. List two reasons for the seasons;
    a. Tilt of the Earth's axis
    b. revolution
5. _____inertia_____ is the concept that an object at rest will tend to remain at rest and that an object in motion will stay in motion unless an opposing force affects it.
6. ____gravity_____ is the attractive force that exists between any two objects in the universe.
7. The greater the masses of objects, the __greater_____ the force of gravity.
8. The closer the objects are the _greater___ the force of gravity.
9. ___gravity_____ keeps planets near the sun while __inertia_____- keeps the planet from falling into the sun.
10. The ____period_____ of revolution is the amount of time it takes for a planet to revolve around the sun.
11. The closer a planet is to the sun, the smaller its orbit, the smaller its period of revolution and the _shorter____ its years are.
12. _____apparent_____ is a motion that an object appears to make.
13. ___celestial_____ object is an object in the sky outside the Earth's atmosphere.
14. _____celestial_____ sphere is an imaginary sphere encircling the Earth on which all objects in the night sky appear.
15. ___arc__ is the shape of the path that objects appear to move.
16. Most celestial objects appear to move across the sky – rising in the east and setting in the west.
17. All motion appears to move at a constant rate:
    a. ___360___ degrees in one day.
    b. __15____ degrees in one hour.
    c. 1 degree every _4 minutes.
18. ___circumpoler_____ stars completely circle Polaris every 24 hours.
19. ____daily motion_____ the movements of celestial objects over a 24 hour period.
20. As seen from Earth, the planets exhibit daily motion similar to the stars. But over an extended period of time the planets seem to change direction in the sky.
21. The planets seem to make loops and back and forth motions.
22. Within the continental U.S., the sun is higher in the sky in the summer and _lower___ in the sky in the winter. The noon sun is ___never___ directly overhead.
23. The sun is always at its highest position in the sky at noon.
24. The noon sun is only directly overhead (vertical ray) for an observer within the _tropics___.
25. ___geocentric_____ is the incorrect theory of the solar system. The sun and planets revolve around the Earth in this theory.
26. ___heliocentric_____is the correct theory of the solar system. The Earth and other planets revolve around the sun.
27. _____Foucault_____ pendulum is a weight on the end of a string. Proof that the Earth rotates because the string will make a circle over 24 hours.

28. The __Coriolis_____ effect is another proof of the Earth's rotation.
29. Proof of the Earth's Rotation:
    a. Changing ____seasons_____.
    b. The _____constellations_____ seem to change.
        i. ___a constellation_____ is a group of stars that form a pattern
    c. The _____angular_____ diameter of the Sun appears to change throughout the year.
        1. means how big it appears to be.
    d. Small changes in the color every year.
30. The moon revolves around the Earth in an elliptical orbit that is tilted about 5 degrees from the Earth's orbit.
31. The moon orbits the Earth once every 27 and 1/3 days. It takes 29 days for a complete cycle though because it takes two extra days for the moon to catch up to the original location on Earth.
32. Half of the moon is always receiving __light___ from the sun at any given time.
33. ___Phases of the moon_____ are the changing amounts of the lighted moon as seen from the Earth. Caused because the moon revolves around the Earth and the viewer sees changing amounts of the lighted half.
34. ___Tides____ are the cyclic rise and fall of ocean waters.
35. Tides are caused by the gravitational attraction of the ____Moon____ and __Earth__.
36. Ideally, there should be 12 hours and 50 minutes between each high tide.
37. Spring tides are extra _high__ tides. _Neap__ are extra low tides.
38. An ___eclipse_____ is when a celestial object partly or completely comes into the shadow of another celestial object.
39. ___Solar_____ eclipses are when the moon's shadow falls on part of the Earth and blocks out the sun. Rare, 7 ½ minutes long, moon's shadow is small – few people see it
40. ____Lunar____ eclipses are when the Earth's Shadow covers the moon. Common, 100 minutes, half the people on Earth can see it.
41. _____Equinoxes_____ are two days a year when everywhere on Earth gets twelve hours or daylight and twelve hours of darkness.
42. __Winter_____ solstice is when the Northern Hemisphere is tipped away from the sun.
43. ____Summer_____ solstice is when the Northern Hemisphere is tipped toward the sun.