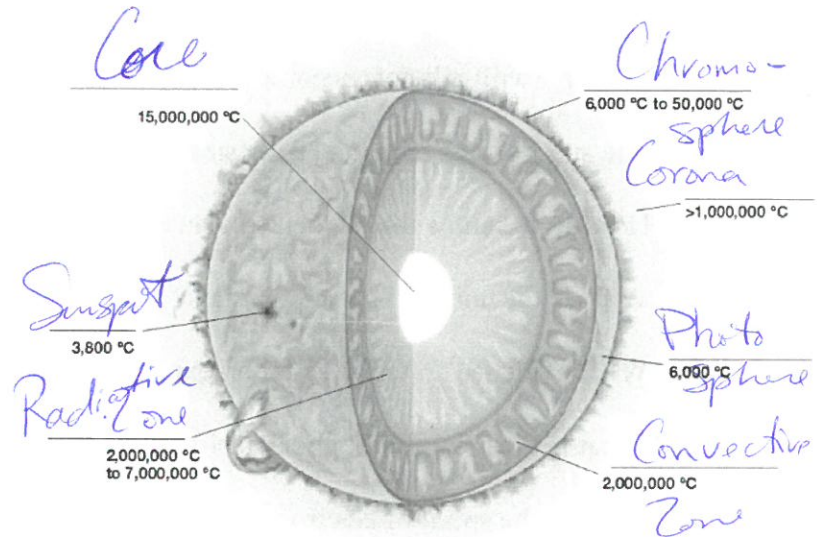


Name _____
 Teacher _____
 Class _____ Block _____
 Date _____

Ch. 29-30 Stars and Constellations Study Guide

1. Label the Sun.
 - a. Core
 - b. Sunspot
 - c. Corona
 - d. Convection zone
 - e. Photosphere
 - f. Radiative zone
 - g. Chromosphere



2. What is the nursery of a star? Stellar Nebula

3. What is the fuel of a star? Hydrogen

4. What is the ash of a star? Helium

5. What happens at 27 million degrees F?

fusion = ignition = light given off

6. What happens to a star when heat expansion is greater than gravity?

gets bigger

7. What happens to a star when heat expansion and gravity are the same force?

no change

8. What happens to a star when gravity is greater than heat expansion?

gets smaller

9. Large stars burn (slower/faster) than small stars.

10. Describe fission. Atoms break = nucleus splits

11. When fusion happens, 4 atoms of hydrogen gas react to make 1 helium atom, and they release a lot of energy.

12. What is Einstein's equation in his special theory of relativity? $E=mc^2$

13. What do the letters stand for? Energy, mass, c = speed of light =
14. The hottest color of a star is Blue (Beyond white) 300,000 km/s
15. The coolest color of a star is Red.
16. The sun (will/will not) become a supernova.
17. The sun's size is recognized as (small/medium/large).
18. How do we know the elements in stars? spectrographs/fingerprints/lines
19. What is the unit of distance for stars? light year
20. What evidence do we have for an expanding universe? Stars are Red-Shifted
21. What is the theory of how expansion started? Big Bang Theory
22. What is the speed of electromagnetic waves? 300,000 km/s
23. Give the visible spectrum. ROYGBIV red, orange, yellow, green, blue, indigo, violet
24. Give the electromagnetic spectrum from lowest energy to highest energy.
- Radio Microwave Infrared Visible Light
UV X-Ray Gamma
25. Red shift: waves are stretched making color from stars appear a color with (less/more) energy.
26. Blue shift: waves are compressed making color from stars appear a color with (less/more) energy.
27. Yellow stars appear more orange due to red shift.
28. Give the stages of a star as it goes through its life and ends up as a black dwarf.
- Nebula
 - Protostar
 - low Mass Star
 - Red Giant
 - Planetary Nebula
 - White dwarf
 - Black Dwarf
29. Give the stages of a star as it goes through its life and ends up as a neutron star.
- Nebula
 - Protostar
 - High Mass Star
 - Red Supergiant
 - Supernova
 - Neutron Star
30. All black holes must be Super Massive stars at the beginning of their lives.

31. One sugar cube of neutron star material weighs the same as all humans.
32. If a black hole with the mass of the sun was put in the same place as where the sun is, Earth (would/would not) be sucked into the black hole. gravity is the same
33. What is above the earth's equator? Celestial equator
34. Latitude is similar to Declination.
35. How is declination measured? The numbers range from -90 to +90, and the label is Degrees.
36. Longitude is similar to Right Ascension.
37. How is right ascension measured? The numbers range from 0 to 24, and the
- ~~38.~~ labels are hours and minutes
39. What creates your horizon? the ground
40. Zenith is overhead.
41. What do circumpolar stars never do? Set Below the horizon
42. Altitude is a star's height above the horizon.
43. Azimuth is a star's compass direction.
44. Where is Polaris compared to the Little Dipper? at the end of the handle
45. Orion's hunting dogs are always nearby.
46. Procyon is in Canis Minor and Sirius is in Canis Major.
47. What two seasons have Orion dominating the sky? Winter and early Spring.
48. Scorpio is only visible during the Summer months.
49. Ursa Major has been divided into the plow, the chariot, or the Big Dipper. (or drinking gourd)
50. Pointer stars point to Polaris, the north star, and to Leo, the lion.
51. From the Big Dipper, follow the arc to Arcturus, which is in the constellation, Bootes. Spike to Spica, which is in the constellation, Virgo.

52. Follow the stars in Orion's belt past his shoulder (Betelgeus), and you'll run into Castor and Pollux in the constellation, Gemini.

53. Follow his belt in a straight line, and you find Aldebaran in the Eye of Taurus, the bull.

54. If you follow Orion's belt to the right, you run into the eye of the constellation,

Taurus.

55. What is the story of the Pleiades? Orion thought he was extremely awesome, but the Seven sisters always run from him. (Hint: how many were there?)

56. What is the story of Cassiopeia? She is the mother of Andromeda. Cassiopeia is the queen. She made the Sea God mad, so he captured the daughter and chained her to a rock in the Ocean. Perseus, the prince, came to rescue her and stopped the sea monster with the head of Medusa.

57. Cassiopeia is in the shape of the letter, W. (M, E, 3)

58. Astronomers now think of a constellation as one of 88 regions that divide up the sky and completely cover it.

59. Actual-Absolute magnitude is the actual amount of light coming from a star.

60. Apparent magnitude is the perceived amount of light coming from a star.

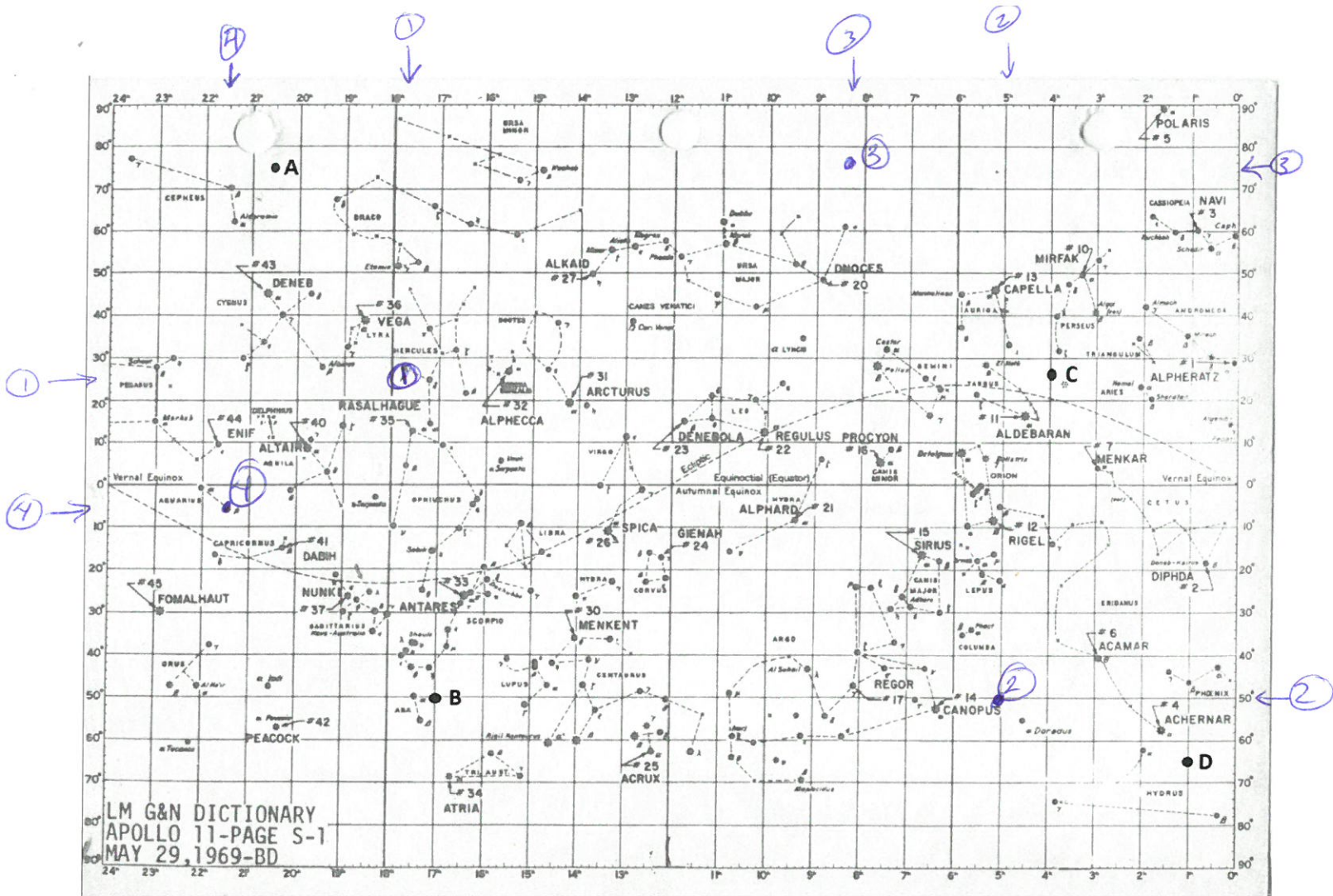
61. Charles Messier was a Comet hunter.

62. One man's trash is another man's treasure. Describe this in reference to the Messier objects.

Messier objects were not Comets. Everyone wanted to find Comets back then. Now Everyone is studying the Messier Objects.

63. Crab Nebula is M1.

64. M31 is the Andromeda Galaxy.



Mark the following points on the map with the number they are given:

1. RA 17:45 Dec 25 degrees
2. RA 5:00 Dec -50 degrees
3. RA 8:15 Dec 75 degrees
4. RA 21:30 Dec -5 degrees
5. Give the Right Ascension and Declination for the letters marked on the map.

A. RA 20:30 Dec 75°

B. RA 17:00 Dec -50°

C. RA 4:00 Dec 25°

D. RA 1:00 Dec -65°

