

Part 1.

1. Constellations are groups of _____.
2. Constellations which are continuously visible above the North Pole are called _____ because they _____.
3. The Earth rotates on its axis from _____ to _____.
4. The North Star is called _____. It is located almost exactly above the axis of the _____.
5. The North Star is in the constellation _____.

Part 2.

6. An astronomical unit (AU) is about _____ km.
7. The next closest star, other than the sun is _____.
8. A light year is _____ km.

Part 3.

9. The sun has a diameter of _____ km, and a density about _____ times that of water.
10. Betelgeuse is only one ten-millionth as dense as the _____.
11. Cool stars are _____ in colour than hotter stars. Hotter stars are _____ in colour.
12. A red hot star might have a surface temperature of only _____.
13. The temperature of our sun is _____.
14. Blue hot stars have a surface temperature of _____.

Part 4.

15. The brightest star in the sky is _____. It has a magnitude of _____.
16. The brightness of a star as seen from earth is called _____. The true brightness of a star is known as _____.
17. The difference between the brightness of a first magnitude star and a second magnitude star is about _____ times.
18. Absolute magnitude is the brightness of a star if it was placed _____ from the sun.

Part 5.

19. The sun is a yellow star in the _____ or stable state.
20. Giants and supergiants are cooler, but because of their size are highly _____.
21. Antares and Betelgeuse are examples of _____ stars.
22. Less luminous stars are called _____ stars. Their absolute magnitude is never greater than _____.
23. A special type of dwarf star is the _____ dwarf. It is very faint and very tightly packed, often 100,000 times more _____ than the earth, yet the same size.

Part 6.

24. The huge clouds of dust between the stars are about _____ % gas.
25. Most of this gas is _____.
26. The clouds of gas and dust are known as _____.
27. The Great Nebula is in the constellation _____.
28. A nebula that is not near a star is called a _____.
29. Large glowing clouds of gas which will eventually become stars are known as _____.
30. Fusion begins at the centre of a new star when the gas and dust continues to _____.
31. Yellow stars like our sun take a few _____ years to contract to a stable state.

Part 7.

32. In a stable star, the contraction due to gravity and the expansion due to nuclear fusion are _____.
33. Stars can stay stable for _____ of years.
34. Once the star loses much of the _____ atoms in the core, which are replaced by _____, it loses its _____.
35. The star expands to become a _____.

Part 8.

36. When most of the fuel for the fusion reaction is used up the star collapses and forms a _____.
37. The _____ are squeezed tightly together, so the _____ is very high, even though the size is about that of Earth.

38. The star gets very dim because most of its _____ is gone. It can continue to shine faintly for _____ years.
39. A white dwarf which flares brightly is called a _____.
40. Our sun is believed to be _____ years old.
41. Eventually, our sun will swell to a _____, then collapse to a _____.

Part 9.

42. White dwarves form from stars of about the same mass as the _____.
43. A massive red giant explodes violently as a _____ to form a _____ star.
44. Supernovas may be _____ times more luminous than the sun.
45. Chinese astronomers are believed to have observed a supernova in _____.
46. The supernova they saw is now known as the _____.

Part 10.

47. A collection of thousands or millions of stars is called a _____.
48. The _____ is the galaxy which we are in.
49. There are _____ stars in our galaxy.
50. The diameter of our galaxy is about _____.
51. The Andromeda Galaxy is a nearby galaxy, about _____ light years away.

Part 11.

52. The three main types of galaxies are _____, _____, and _____.
53. Describe each type.

Part 12.

54. Explain the Big Bang Theory of the creation of the universe.

55. The universe is thought to be _____ years old.

56. What evidence is there for the Big Bang Theory?

Part 13.

57. In the space below, draw the Hertzsprung-Russell Diagram. Be sure to show all the major features. Also show how a star moves from the main sequence, through the giant or supergiant stage into the white dwarf stage of its life.

UNIT 1 (CH. 21) → STARS

1. CONSTELLATION
2. ASTRONOMICAL UNIT
3. LIGHT YEAR
4. APPARENT MAGNITUDE
5. LUMINOSITY
6. ABSOLUTE MAGNITUDE
7. RED GIANTS
8. SUPERGIANTS
9. DWARF STARS
10. PULSAR
11. NEBULAE
12. SUPERNOVA
13. NEUTRON STAR
14. BLACK HOLES
15. GALAXIES
16. QUASARS
17. BIG BANG HYPOTHESIS



Earth Science 11 Unit 1 Test A

Test Review

What are the groups of stars which are always visible above the North Pole called?

Which direction does the earth rotate on its axis?

What is the surface temperature of a red hot star?

The hotter the star the more _____ its colour?

What is the brightest star in the sky?

What is a special type of dwarf star?

What are Interstellar clouds of dust and gas called?

What is formed when the fuel is used up and a star collapses?

What forms after a supernova explodes?

What is a collection of thousands of stars called?

What is another name for the North Pole?

Is the North Pole in the constellation Cassiopeia?

How many kilometers is a light year?

How many more times dense is the sun than water?

What is the surface temperature of the sun?

What is the magnitude of Sirius?

What is the brightness of a star as seen from the earth?

Is our sun in an unstable state?

What is a nebula that is not near a star known as?

What does a contraction of dust and gas cause to start in the star?

When did the Chinese astronomers think they saw a super nova?

Describe the process by which a supergiant star becomes a neutron star.

What happens in the core of a star to cause it to lose its stability? (2marks)

Describe the characteristics of a spiral galaxy. (1 mark)

Describe the evidence used to support the Big Bang Theory. (4 marks)

