

## Assignment 1

20 marks

Name \_\_\_\_\_

Due \_\_\_\_\_

1. Astronomers believe that the Sun is a bit less than 5 billion years old. (3 marks)
  - (a) Was the Sun created in the Big Bang?
  - (b) What evidence is there for your answer?
  - (c) Describe briefly how the Sun may have been formed.
2. Will the sun ever become a supernova? Give a reason for your answer. (1 mark)
3. Pulsars were given that name because they appear to pulse or blink rapidly on and off. Why to pulsars pulse? (1 mark)
4. How do pulsars form? (1 mark)
5. White dwarfs and yellow dwarfs are connected through a life cycle. Explain your answer using diagram. (2 marks)
6. How are astronomers able to find out what elements are present in the atmosphere of Jupiter?  
(1 mark)
7. Stars are not uniform but have layers just like our Sun. Name any three layers of our Sun and briefly explain what each of your chosen layers does. (2 marks)
8. Draw and name four different types of galaxies. (4 marks)
9.
  - (a) What star sign are you?
  - (b) Find the constellation that corresponds to your star sign and draw the pattern of stars that make up your constellation.
  - (c) Name and label at least one star in your constellation.
  - (d) Try and draw the object your constellation represents. (4 marks)
10. Why do seasons occur on earth? (1 mark)

Name \_\_\_\_\_

# Earth and Space Science

## Matching Exercise 1

1. Our nearest neighbour in space ( ).
  2. Craters on the moon could have been formed by ( ) or possibly many large and active ( ).
  3. The moon shines because it reflects ( ).
  4. The red planet ( ).
  5. The sun is a ( ).
  6. Shaped like a flat disc which is thicker in the middle ( ).
  7. The closest star (apart from the sun) to earth is ( ) and is around ( ) light years away.
  8. ( ) is the brightest planet in the sky.
  9. The shape of the sun ( ).
  10. Sunburn is caused by this type of electromagnetic radiation. ( )
  11. This group of stars is on our flag. ( ).
  12. The sun is ( ) million km from earth.
  13. This movement of the earth causes day and night ( ).
  14. All the orbits of the planets lie in the one ( ).
  15. All stars are made up of ( ) and ( ).
  16. This is the name of the process which causes stars to shine ( ).
  17. This type of radiation travels at 300,000 km per second ( ).
  18. Core, Photosphere, ( ), and ( ) are all ( ) of the sun,
  19. Black features on the surface of the sun ( ).
  20. The sun ( ) on its axis.
  21. The planets ( ) around the sun.
  22. Seasons on earth are caused by the ( ) of the earth's axis..
  23. The long axis of the southern cross can be used to find due ( ).
  24. Radio, microwave, infra-red, ( ), ultra-violet, ( ) and cosmic radiation all form part of the electromagnetic ( ).
1. star
  2. Ultra-violet
  3. Southern cross
  4. 150
  5. rotation
  6. helium
  7. volcanoes
  8. spectrum
  9. visible
  10. sunlight
  11. sunspots
  12. fusion
  13. moon
  14. rotates
  15. spherical
  16. mars
  17. Meteorite collision
  18. X-ray
  19. revolve
  20. Proxima Centauri
  21. south
  22. Milky Way galaxy
  23. layers
  24. Venus
  25. Convective zone
  26. plane
  27. 4.2
  28. hydrogen
  29. tilt
  30. electromagnetic
  31. Chromosphere

Mark / 24

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# Name \_\_\_\_\_ Earth and Space Science

## Matching Exercise 2

1. The distance light travels in one year ( ).
  2. The time for the earth to carry out one ( ) on its axis is ( ) and the time for one revolution is ( ).
  3. An example of a constellation ( ).
  4. The ( ) of earth protects us from the solar wind.
  5. The sun is situated about ( ) of the way across the Milky Way.
  6. Between Mars and Jupiter there is a belt of ( ).
  7. The heat of the sun is maintained by ( ) reactions in which 4 ( ) atoms ( ) fuse to become a ( ) atom.
  8. ( ) is the brightest planet in the sky.
  9. Moving balls of mainly ice whose tails face away from the sun ( ).
  10. A star ( ) but a planet ( ).
  11. This constellation of stars is on our flag. ( ).
  12. The moon has an atmosphere. ( )
  13. The period of rotation of the moon is around ( ) days.
  14. These are usually located at the centre of galaxies. ( ).
  15. The distance light travels in one year ( ).
  16. This type of star explodes at the end of its life cycle ( ).
  17. The explosion at the end of a star's life cycle is called a ( ).
  18. Our star at the end of its life cycle will become a ( ).
  19. The Milky Way is one of these ( ).
  20. Galaxies can either be ( ), ( ) or ( ) in shape.
  21. The moons of planets are ( ) satellites.
  22. This is one of the thousands of man-made satellites. ( )
  23. This is the closest star to earth (apart from the sun). ( )
  24. A ( ) allows astronomers to identify the gases making up stars.
  25. "Star light, star bright; the first star I see tonight. I wish ...."  
The first star you usually see is not a star at all – it is ( ).
- Mark    /25

%
1. 1 year
  2. One fifth
  3. Crux (Sth Cross)
  4. False
  5. Supergiant
  6. Barred spiral galaxy
  7. Orion
  8. Spiral
  9. natural
  10. 9.46 trillion km
  11. rotation
  12. Light year
  13. elliptical
  14. ISS
  15. 1 day
  16. shines
  17. asteroids
  18. spectrometer
  19. irregular
  20. comets
  21. fusion
  22. Magnetic field
  23. Proxima centauri
  24. Venus
  25. helium
  26. twinkles
  27. 28
  28. hydrogen
  29. Venus
  30. white dwarf
  31. supernova

