

1. What is a 'lek'?
2. Give the dimensions of A4 and A10 paper.
3. What is a coelacanth?
4. In which year did Antoine Becquerel discover radioactivity?
5. Who discovered the planet Pluto on the 18th February 1830?
6. What is the mean density of the Earth and the Sun?
7. For what is Chernobyl known, and in what year did this event occur?
8. What is the 'triple point of water'?
9. What is the full title of Charles Darwin's classic book on the theory of evolution, and in which year was it first published?
10. What was the name of the ship on which he travelled, and, in which islands did he discover numerous varieties of Finch that aided the development of his theory of evolution?
11. Name all six of the categories in which the Nobel Prize is awarded annually.
12. Give the SI value of one foot (1ft), correct to four decimal places.
13. What is the numerical difference between one UK knot and one International knot?
14. Name all four organic bases in DNA.
15. What was the name of the Russian Space Station that was 'dumped' in the Pacific Ocean during 2001?
16. Name two British-born scientists who lived and worked on this space station.
17. What is a plasmid?
18. What is the Beaufort Scale used to measure?

19. If a person suffers from 'ophthalmoplegia', describe their condition.
20. Give the speed of any electromagnetic spectral wave in a vacuum, correct to five decimal places.

The underlined section must appear in the answer for the point(s) to be awarded.

1. A bachelors 'hangout': used mainly for wildlife e.g. grouse, antelope.
2. A4 = 210 x 297 mm; A10 = 26 x 37 mm
3. A living 'fossil' fish. The first living specimen was first caught by a fishing trawler in 1938 near East London, South Africa. Coelacanths are still found near the Comores Islands in the Indian Ocean.
4. In 1896 Antoine Becquerel discovered radioactivity.
5. Clyde Tombaugh discovered Pluto the planet on the 18th February, 1830.
6. Earth's mean density = 5.517 (times that of water which is 1000 kg/m³ at 4°C), i.e. 5.517 x 10³ kg/m³; Sun's mean density = 1.410 x 10³ kg/m³
7. Chernobyl is known for the nuclear reactor disaster in the Ukraine in 1986.
8. The triple point is the temperature and pressure at which the three phases of a substance can co-exist. The triple point of water is the equilibrium point (273.16K and 610N/m²) between pure ice, air-free water and water vapour obtained in a sealed vacuum flask.
9. On the Origin of Species by Means of Natural Selection by Charles Darwin, published in 1859.
10. The ship was The Beagle and the islands were the Galapagos Islands in the Eastern Pacific Ocean.
11. Nobel Prize for the Promotion of Peace; Literature; Physiology or Medicine; Chemistry; Physics; Economics.
12. 1 ft = 0.3048m
13. UK knot = 0.5147 m/s. International knot = 0.5144 m/s. Difference = 0.0003m/s
14. Adenine, Guanine, Cytosine, Thymine (thymidine).
15. Mir Space Station
16. Helen Sharmer and Michael Foulds

17. A genetic element containing nucleic acid and able to replicate independently of its host's chromosomes. Ring of DNA found in Bacteria. Much used in recombinant DNA technology.
18. A numerical scale of wind force, ranging from 0 for winds less than 1 knot to 12 for winds within the limits 110 - 118 knots.
19. Paralysis of one or more of the eye muscles.
20. 2.99792458×10^8 m/s is the precise speed of any electromagnetic wave in a vacuum.

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