100 Physics Facts

1. The standard international unit (SI unit) for mass (m) is ….

   kg (kilograms)

2. The standard international unit (SI unit) for time (t) is….

   s (seconds)

3. The standard international unit (SI unit) for length (l) is ….

   m (metres)

4. The standard international unit (SI unit) for distance (s) is ….

   m (metres)

5. The standard international unit (SI unit) for volume (V) is ….

   m^3 (metres cubed)

6. The standard international unit (SI unit) for density ($_\rho$) is ….

   kg/m^3 (kilograms per metre cubed)

7. The standard international unit (SI unit) for velocity (v) is ….

   m/s (metres per second)

8. The standard international unit (SI unit) for voltage (V) is ….

   V (volts)

9. The standard international unit (SI unit) for current (I) is

   A (amps)

10. The standard international unit (SI unit) for resistance (R) is….

    Ω (ohms)

11. The standard international unit (SI unit) for energy (E) is….

    J (joules)

12. The standard international unit (SI unit) for work done (W) is ….

J (joules)

13. The standard international unit (SI unit) for power (P) is ….

W (watts)

14. The standard international unit (SI unit) for force (F) is ….

N (newtons)

15. The standard international unit (SI unit) for temperature (T) is ….

K (kelvin)

16. The standard international unit (SI unit) for acceleration (a) is ….

m/s^2 (metres per second squared)

17. The standard international unit (SI unit) for momentum (p) is

kgm/s (kilogram meters per second)

18. The symbol for weight is **w**

19. The symbol for mass is **m**

20. The symbol for gravitational field strength is **g**

21. The equation for calculating weight is

w = m x g

22. The unit for weight is **N (newtons)**

23. The unit for mass is **kg (kilograms)**

24. The unit for gravitational field strength g is

N/Kg (newtons per kilogram)

25. The symbol for density is $_\rho$ (roe)

26. The symbol for mass is **m**

27. The symbol for volume is **V**

28. The equation for calculating density is

$$\rho = m/V$$

29. The unit for mass is **kg**

30. The unit for volume is **m³**

31. The unit for density is **kg/m³**

32. The symbol for work done is **W**

33. The unit for work done is **J (joules)**

34. The symbol for force is **F**

35. The symbol for distance is **s**

36. The equation for calculating work done is **W = F x s**

37. The symbol for pressure is **ρ** (Greek letter 'rho')

38. The symbol for force is **F**

39. The symbol for area is **A**

40. The equation for calculating pressure is **P = F/A**

41. The equivalent unit of J (joules) is **Nm (Newton metres)**

42. The unit of force is **N (Newtons)**

43. The unit of area is **m² (metres squared)**

44. The unit of pressure is **N/m² (newtons per metre squared)**

45. The symbol for distance is **s**

46. The symbol for time is **t**

47. The symbol for velocity is **v**

48. The equation for calculating distance travelled is **s = v x t**

49. The units of distance is **m (metres)**

50. The units of velocity is **m/s (metres per second)**

51. The units of time are **s (seconds)**

52. The symbol for acceleration is **a**

53. The symbol for velocity is **v**

54. The symbol for 'change in' is **Δ**

55. The symbol for time is **t**

56. The equation for calculating acceleration is **a = Δv/t**

57. The units of charge are **C (coulombs)**.

58. The symbol for charge is **Q** .

59. Current is the **flow of negative charge per second.**

60. Conduction is the **transfer of heat in a solid.**

61. Convection is the **transfer of heat in a liquid or gas**.

62. Radiation is the **transfer of heat as waves.**

63. Voltmeters are **always connected in parallel** in a circuit.

64. Ammeters are **always connected in series** in a circuit.

65. Specific Heat Capacity is the amount of **ENERGY** needed to raise **1Kg** of a substance by **1⁰c**

66. They symbol for Specific heat capacity is **c**

67. The **unit** for specific heat capacity is **J/Kg⁰C**

68. The equation for specific heat capacity is

$$E = m \times c \times \Delta\theta$$

69. An electrical circuit can either be series or parallel.

70. Metals are good conductors of thermal energy because they contain **free electrons.**

71. When substances change state **mass is conserved**.

72. Energy can be transferred usefully, stored or dissipated but **cannot** be created or destroyed.

73. **Internal energy** is the total kinetic energy and potential energy of all the particles that make up a system.

74. Some atomic nuclei are unstable and give out radiation as it changes to become more stable, this is called **radioactive decay.**

75. Nuclear radiation that gets emitted may be an alpha particle, beta particle or a gamma ray.

76. Half-life of a radioactive isotope is the time it takes for the number of nuclei of the isotope in a sample to halve.

77. Radioactive contamination is the unwanted presence of materials containing radioactive atoms on other materials.

78. A typical walking speed is 1.5m/s

79. A typical running speed is 3m/s

80. A typical cycling speed is 6m/s

81. The speed of sound in air is typically 330m/s

82. The speed of light in a vacuum is typically 3.0×10^8 m/s

83. Velocity of an object is the speed in a given direction.

84. Newton's First Law: an object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force.

85. Newton's Second Law: The acceleration of an object is proportional to the resultant force acting on the object, and inversely proportional to the mass of the object.

86. Newton's Third Law: Whenever two objects interact, the forces they exert on each other are equal and opposite.

87. The stopping distance of a vehicle is the sum of the distance the vehicle travels during the driver's reaction time and the distance it travels under the braking force.

88. The greater the speed of the vehicle, the greater the stopping distance.

89. The typical reaction time of a person is from 0.2s to 0.9s.
90. Momentum is defined by the equation:

Momentum = mass x velocity

91. In a closed system the total momentum before an event is equal to the total momentum after the event

92. The equation for wave speed is

wave speed = frequency x wavelength

93. The equation for speed is
speed = distance / time

94. Waves may either be transverse or longitudinal

95. Sound waves are longitudinal

96. The ripples on a water surface are transverse waves

97. Electromagnetic waves are transverse waves that transfer energy from the source of the wave to an absorber

98. The 7 electromagnetic waves are: radio waves, microwaves, infrared, visible light, UV rays, x-ray, gamma rays,

99. An induced magnet is a material that becomes a magnet when placed into a magnetic field.

100. The equation for electrical energy supplied in an electric circuit is

$$E = I \times V \times t$$