

Definition of Word for Physics IGCSE CIE

1. **Density** is the mass over volume
2. **Scalar** is the quantity that has only magnitude (size).
3. **Vector** is the quantity that has both magnitude and direction.
4. **Speed** is the rate of change in distance.
5. **Velocity** is the rate of change in displacement.
6. **Acceleration** is the rate of change in velocity.
7. **Free fall** is the motion that under only gravitational force and no air resistance, so constant acceleration as 10 m/s^2
8. **Weight** is force due to gravitational field, so it is the product of mass and gravity (10 m/s^2).
9. **Work done** is the product of force and distance moved in direction of force.
10. **Kinetic energy** is the energy due to movement.
11. **Gravitational potential energy** store in the object due to change in height in gravitational field.
12. **Elastic potential energy** store in the object due to change in shape.
13. **Conservation of energy** is the energy cannot made and destroy but it can transfer from one form to another forms.
14. **Efficiency** is the ratio of useful power/energy output over the total power/energy input.
15. **Momentum** is the product of force and the velocity.
16. **Force** is the rate of change in the momentum.
17. **Principle of momentum** is the total momentum before collision is equal to the total momentum after collision without the external force act on the system.
18. **Impulse** is the change in momentum or the product of force and time duration of collision.
19. **Moment or Turning effect** is the product of force and perpendicular distance from pivot.
20. **Principle of moment** is the total anti clockwise moment is equal to the total clockwise moment about the pivot.
21. **Condition for equilibrium** is the no resultant force and no resultant moment.
22. **Pressure** is force over area.
23. **Sensitivity** is the length of liquid expansion per celsius when temperature changed
24. **Range** is the difference between the minimum temperature and maximum temperature that thermometer can measure.
25. **Responsiveness** is the speed of expansion of liquid when temperature changed.
26. **Linearity** is the same length of scale per celsius.
27. **Specific heat capacity** is the heat energy that require to change the temperature 1 celsius/kelvin per unit mass.
28. **Thermal capacity** is the heat energy per unit temperature that require to change temperature $1 \text{ celsius/ kelvin}$.
29. **Specific latent heat** is the heat energy that require to change state per unit mass at constant temperature.
30. **Conduction** of heat is when molecules in solid gain more kinetic energy and more vibration, so they collide the next particles and transfer heat energy.

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31. **Convection** of heat is when the molecules of liquid or gas gain more kinetic energy and moving fast the it expand which cause the density decrease and rise up.
32. **Radiation** of heat is transferring of heat by infrared radiation.
33. **Hooke's law** is the extension is directly proportion to the force/load.
34. **Proportional limit** is the final point that the object will obey Hooke's law.
35. **Elastic limit** is the point where is the maximum extent to which an object can stretched without the permanent deformation and when it beyond elastic limit, it cannot return to original shape when removed force.
36. **Transverse wave** is the oscillation at right angle(perpendicular) to the direction of the energy transfer.
37. **Longitudinal wave** is the oscillation at parallel to the direction of the energy transfer.
38. **Period** is the time taken for on complete oscillation.
39. **Frequency** is the number oscillation per second.
40. **Wavelength** is the distance between one point to the next identical point.
41. **Amplitude** is the distance between rest position and crest or trough of wave. Amplitude is represented the carrying energy of wave.
42. **Reflection of wave** is when the incident wave strike the obstacle, so it reflect to cause the direction changed, but the speed, wavelength and frequency are constant.
43. **Rule of reflection** is the angle of incidence is equal to the angle of reflection and the incident ray, reflected ray and normal line lie in same plane.
44. Real image is the image that can projected on screen.
45. Virtual image is the image that cannot projected on the screen.
46. **Refraction of wave** is when the incident wave travel from one medium to other medium, so the speed and wavelength changed but constant frequency.
47. **Diffraction of wave** is the spreading out of wave when it pass through the gap or obstacle, so the speed, wavelength and frequency of wave are constant.
48. **Critical angle** is the angle of incidence in denser medium that making the refractive angle 90 degree.
49. **Total internal reflection** happen when the wave travel from denser medium to less dense medium and the angle of incidence is more than the critical angle, so no refraction of wave and the angle of incidence is equal to the angle of reflection.
50. **Focal length** of lens is the distance between the principle focal point and the centre of lens.
51. **Principle focus** of lens is the single point that the all light ray meet together.
52. **Centre of gravity** is the single point which whole weight of object act.
53. **Centre of mass** is the single point which whole mass is concentrated
54. **Electric field** is the region which a charge experience a force from another charge.
55. **Current** is the rate of flowing of charge.
56. **Voltage or Potential difference** is the electrical energy transfer to other form of energy per unit charge.
57. **e.m.f. (Electromotive force)** is the chemical energy transfer to electrical energy per unit charge for driving 1 coulomb around the circuit.
58. **Power** is the rate of dissipated energy.

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59. **Parallel circuit** is the same voltage across component and equal to the supply's voltage.

60. **Series circuit** is the sum voltage across each component is equal to supply's voltage.

61. **Magnetic field** is the region of space which a magnetic force can be detected.

62. **Electromagnetic induction** is the induced current/e.m.f./voltage to produce by the conductor interact with the magnetic field.

63. **Faraday's law** is the induced e.m.f. is directly proportion to the rate of change in magnetic field.

64. **Lenz's law** is the direction of induced current will oppose to the direction of change in magnetic that produce the induced current.

65. **Radioactive decay** is the random process (and spontaneous process) that unstable nuclei will decay to emit the nuclear radiation (alpha, beta and gamma)

66. **Random process** of radioactive decay is the same probability of decay for each nucleus, so we don't know which nucleus will decay.

67. **Background radiation** is the small amount of nuclear radiation in surrounding because of radioactive sources in environment.

68. **Ionisation of nuclear radiation** happen when the nuclear radiation interact with the other atom and causing the electrons lost, so the atom became charge.

69. **Half life** of radioactive material is the time taken that cause the activity/ mass/nuclei to reduce for a half of original value.

70. **Activity** is the rate of nuclei decay, it is measured in becquere(Bq).