

Year 9

1. Speed = Distance / Time
2. Velocity = Displacement / Time
3. Density = Mass / Volume
4. Weight = Mass x Gravity
5. Work = Force x Distance
6. Volume of a regular solid = Length x Width x Height
7. Volume of a irregular solid using a measuring cylinder = $V_2 - V_1$
8. Power = Work / Time
9. Pressure = Force / Area
10. Pressure under a liquid = Density x Gravity x Depth
11. Boyle's Law: Pressure of a gas. $P_1V_1 = P_2V_2$
12. Energy = Mass x Specific Heat Capacity x Change in temperature
13. Energy = Mass x Latent Heat
14. Kinetic energy = $\frac{1}{2} \times \text{mass} \times \text{velocity squared}$
16. The law of reflection: Angle of incidence = angle of reflection ($i=r$)
17. Refractive index (n): $n = \frac{\sin i}{\sin r}$ (Snell's law)
18. $n = \frac{C_v}{C_m}$ C_v = speed of light in air, vacuum. C_m = speed of light in the medium (glass).
19. $n = \frac{1}{\sin C}$ C = critical angle
20. Velocity = frequency x wavelength

Year 10

21. Charge = Current x Time
22. Charge = number of electrons x charge of an electron
23. Adding resistors in series: $R = R_1 + R_2 + R_3$
24. Adding resistors in parallel: $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$
25. Ohm's Law: voltage = current x resistance
26. Power = current x voltage
27. Electrical energy = current x time x voltage
28. Transformers: $V_p / V_s = N_p / N_s$ p = primary, s = secondary
29. Transformers: $I_p \times V_p = I_s \times V_s$
30. Acceleration: acceleration = change in velocity / time
31. Moments: moment = force x distance
32. Newton's 2nd law: force = mass x acceleration
33. Hooke's law: force = mass x extension

Good luck homies :)
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