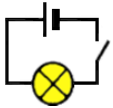
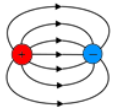
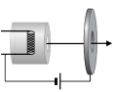
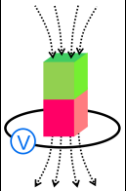
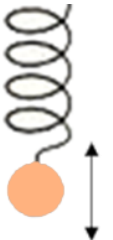
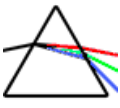
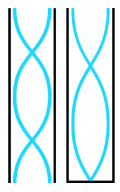
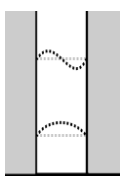


	$W = F s$	1
	$E = P t$	2
	$P = U I$	3
	$I = \frac{\Delta Q}{\Delta t}$	4
	$R = \frac{U}{I}$	5
	$E = \frac{F}{q}$	6
	$E(r) = k \frac{Q}{r^2} \quad k = \frac{1}{4 \pi \epsilon_0 \epsilon_r}$	7
	$F = k \frac{Q_1 Q_2}{r^2}$	8
	$\Delta V = \frac{\Delta E_p}{q}$	9
	$V(r) = k \frac{Q}{r}$	10
	$W = Q U$	11
	$E = \frac{\Delta V}{d} = \frac{U}{d}$	12
	$Q = C U$	13
	$W = \frac{1}{2} C U^2$	14

	$B = \mu n I \quad n = N/l$	15
	$F = B I l \sin \theta$	16
	$F = B q v \sin \theta$	17
	$W = \frac{1}{2} L I^2$	18
	$\Phi = B_{\perp} A$	19
	$\varepsilon = -\frac{\Delta \Phi}{\Delta t}$	20
	$\varepsilon = -L \frac{\Delta I}{\Delta t}$	21
	$F_G = G \frac{m_1 m_2}{r^2}$	22
	$g = \frac{F_G}{m}$	23
	$g(r) = G \frac{M}{r^2}$	24
	$\Delta V = \frac{\Delta E_p}{m}$	25
	$V(r) = -G \frac{M}{r}$	26
	$\Delta E_p = m g \Delta h$	27

	$E_{\text{kin}} = \frac{1}{2} m v^2$	28
	$p = m v$	29
	$F = m a$	30
	$v = \frac{\Delta s}{\Delta t} \quad a = \frac{\Delta v}{\Delta t}$	31 32
	$s(t) = s_0 + v_0 t + \frac{1}{2} a t^2$ $v(t) = v_0 + a t$	33 34
	$\omega = \frac{\Delta \theta}{\Delta t} = \frac{v}{r}$	35
	$a_{\text{cent}} = \frac{v^2}{r} = \omega^2 r$	36
	$f = \frac{1}{T} \quad \omega = 2 \pi f$	37
	$F = -k y$	38
	$a = -\omega^2 y$	39
	$y = A \sin(\omega t)$	40
	$\omega_0 = \frac{1}{\sqrt{L C}}$	41
	$v = f \lambda$	42
	$y(x, t) = A \sin\left(2\pi\left(\frac{t}{T} - \frac{x}{\lambda}\right)\right)$	43
	$f_o = f_s \left(\frac{v \pm u_o}{v}\right)$ $f_o = f_s \left(\frac{v}{v \pm u_s}\right)$	44

	$\alpha_i = \alpha_r$	45
	$\frac{\sin \alpha_1}{\sin \alpha_2} = \frac{n_2}{n_1} = \frac{c_1}{c_2}$	46
	$k \lambda = d \sin \alpha_k$	47
	$\frac{\Delta y}{D} = \frac{\lambda}{d}$	48
	$d = \frac{\lambda}{2}$	49
	$L = n \frac{\lambda}{2} \quad n = 1, 2, 3, \dots$	50
	$L = n \frac{\lambda}{4} \quad n = 1, 3, 5, \dots$	51
	$E_\gamma = h f$	52
	$E_k = h f - W_0$	53
	$p_\gamma = \frac{h}{\lambda}$	54
	$\lambda = \frac{h}{p}$	55
	$\Delta x \Delta p \geq h$ $\Delta E \Delta t \geq h$	56
	$E_n = \frac{h^2}{8 m L^2} n^2$	57
	$E_n = -\frac{13.6 \text{ eV}}{n^2}$	58
	$W = h f$	59

e	$= 1.602\,176\,634 \times 10^{-19} \text{ C}$
ε_0	$= 8.854\,187\,81 \times 10^{-12} \text{ A s V}^{-1} \text{ m}^{-1}$
μ_0	$= 1.256\,637\,062 \times 10^{-6} \text{ V s A}^{-1} \text{ m}^{-1}$ $= 4\pi \times 10^{-7} \text{ V s A}^{-1} \text{ m}^{-1}$
G	$= 6.674\,30 \times 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}$
g	$= 9.81 \text{ m s}^{-2}$
c	$= 2.997\,924\,58 \times 10^8 \text{ m s}^{-1}$
h	$= 6.626\,070\,15 \times 10^{-34} \text{ J s}$
1u	$= 1.660\,539\,066 \times 10^{-27} \text{ kg}$ $= 931.494\,102 \text{ MeV}/c^2$
m_e	$= 5.485\,799\,090 \times 10^{-4} \text{ u}$ $= 9.109\,383\,70 \times 10^{-31} \text{ kg}$
m_p	$= 1.007\,276\,466\,6 \text{ u}$ $= 1.672\,621\,923 \times 10^{-27} \text{ kg}$
m_n	$= 1.008\,664\,915 \text{ u}$ $= 1.674\,927\,498 \times 10^{-27} \text{ kg}$

10^{15}	P	10^2	h	10^{-3}	m
10^{12}	T	10^1	da	10^{-6}	μ
10^9	G	10^0		10^{-9}	n
10^6	M	10^{-1}	d	10^{-12}	p
10^3	k	10^{-2}	c	10^{-15}	f

L, s	m
m	kg
t	s
I	A
v	m s^{-1}
a	m s^{-2}
p	kg m s^{-1}
$\alpha, \theta, \dots$	$\alpha = \alpha \text{ rad} = \alpha^\circ \times \frac{2\pi}{360^\circ}$
ω	$\text{s}^{-1} (= \text{rad s}^{-1})$
F	$\text{N} = \text{kg m s}^{-2}$
E, W	$\text{J} = \text{N m} = \text{W s}$
P	$\text{W} = \text{J s}^{-1} = \text{N m s}^{-1}$
f	$\text{Hz} = \text{s}^{-1}$
Q	$\text{C} = \text{A s}$
I	$\text{A} = \text{C s}^{-1}$
R	$\Omega = \text{V A}^{-1}$
U, V	$\text{V} = \text{J A}^{-1} \text{ s}^{-1}$
E	$\text{V m}^{-1} = \text{N C}^{-1}$
C	$\text{F} = \text{C V}^{-1}$
B	$\text{T} = \text{V s m}^{-2}$
Φ	$\text{Wb} = \text{V s}$
L	$\text{H} = \text{V s A}^{-1}$

