

$$\text{Acceleration} = \frac{\text{final velocity} - \text{initial velocity}}{\text{time}} \quad (a = \frac{v_f - v_i}{t})$$

$$\text{Density} = \frac{\text{mass}}{\text{volume}} \quad (D = \frac{m}{V})$$

$$\text{Power} = \frac{\text{work}}{\text{time}} \quad (P = \frac{W}{t})$$

$$\text{Mechanical advantage} = \frac{\text{effort distance}}{\text{resistance distance}} \quad (MA = \frac{d_e}{d_r})$$

$$\text{Kelvin} = ^\circ\text{Celsius} + 273 \quad (K = ^\circ\text{C} + 273)$$

$$\text{Weight} = \text{mass} \times \text{acceleration of gravity} \quad (W = mg)$$

$$\text{Volume of a rectangular solid} = \text{length} \times \text{width} \times \text{height} \quad (V = lwh)$$

$$\text{Speed} = \frac{\text{distance}}{\text{time}} \quad (v = \frac{d}{t})$$

$$\text{Force} = \text{mass} \times \text{acceleration} \quad (F = ma)$$

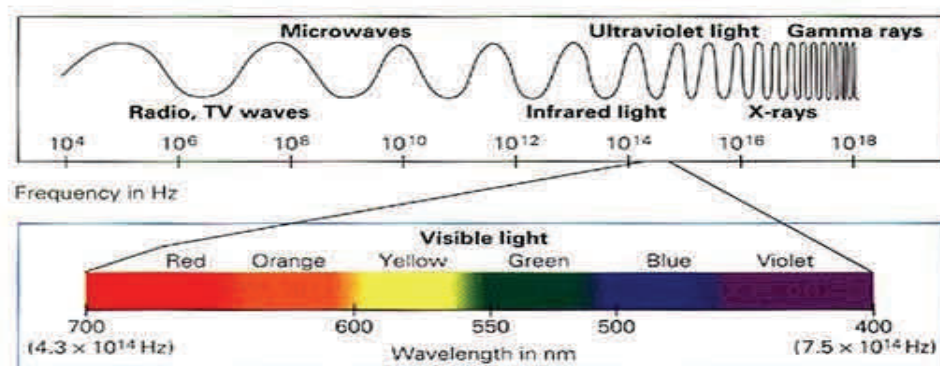
$$\text{Work} = \text{force} \times \text{distance} \quad (W = Fd)$$

$$\text{Efficiency} = \frac{\text{work out}}{\text{work in}} \quad (e = \frac{W_o}{W_i})$$

$$\text{Voltage} = \text{current} \times \text{resistance} \quad (V = IR)$$

$$\text{Acceleration of gravity} = g \approx 10 \frac{\text{m}}{\text{sec}^2}$$

$$F_{\text{gravity}} = \frac{km_1m_2}{d^2}$$



<http://web.princeton.edu/sites/ehs/laserguide/spectrum.jpg>

10 ⁿ	Prefix	Symbol	Decimal
10 ²⁴	yotta-	Y	1 000 000 000 000 000 000 000 000
10 ²¹	zetta-	Z	1 000 000 000 000 000 000 000
10 ¹⁸	exa-	E	1 000 000 000 000 000 000
10 ¹⁵	peta-	P	1 000 000 000 000 000
10 ¹²	tera-	T	1 000 000 000 000
10 ⁹	giga-	G	1 000 000 000
10 ⁶	mega-	M	1 000 000
10 ³	kilo-	k	1 000
10 ²	hecto-	h	100
10 ¹	deca-	da	10
10 ⁰	(none)	(none)	1
10 ⁻¹	deci-	d	0.1
10 ⁻²	centi-	c	0.01
10 ⁻³	milli-	m	0.001
10 ⁻⁶	micro-	μ	0.000 001
10 ⁻⁹	nano-	n	0.000 000 001
10 ⁻¹²	pico-	p	0.000 000 000 001
10 ⁻¹⁵	femto-	f	0.000 000 000 000 001
10 ⁻¹⁸	atto-	a	0.000 000 000 000 000 001
10 ⁻²¹	zepto-	z	0.000 000 000 000 000 000 001
10 ⁻²⁴	yocto-	y	0.000 000 000 000 000 000 000 001

Periodic Table of Elements

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 H Hydrogen 1.00794	2 He Helium 4.002602																
3 Li Lithium 6.941	4 Be Beryllium 9.012182																
5 Na Sodium 22.98976928	6 Mg Magnesium 24.3050																
7 K Potassium 39.0983	8 Ca Calcium 40.078	9 Sc Scandium 44.955912	10 Ti Titanium 47.887	11 V Vanadium 50.9415	12 Cr Chromium 51.9961	13 Mn Manganese 54.938045	14 Fe Iron 55.845	15 Co Cobalt 58.933195	16 Ni Nickel 58.6934	17 Cu Copper 63.546	18 Zn Zinc 65.38	19 Ga Gallium 69.723	20 Ge Germanium 72.64	21 As Arsenic 74.92160	22 Se Selenium 78.96	23 Br Bromine 79.904	24 Kr Krypton 83.798
25 Rb Rubidium 85.4678	26 Sr Strontium 87.62	27 Y Yttrium 88.90585	28 Zr Zirconium 91.224	29 Nb Niobium 92.90638	30 Mo Molybdenum 95.90	31 Tc Technetium (97.9072)	32 Ru Ruthenium 101.07	33 Rh Rhodium 102.90550	34 Pd Palladium 106.42	35 Ag Silver 107.8682	36 Cd Cadmium 112.411	37 In Indium 114.818	38 Sn Tin 118.710	39 Sb Antimony 121.760	40 Te Tellurium 127.60	41 I Iodine 126.90447	42 Xe Xenon 131.293
43 Cs Cesium 132.9054519	44 Ba Barium 137.327	45 La Lanthanum 138.90547	46 Ce Cerium 140.116	47 Pr Praseodymium 140.90765	48 Nd Neodymium 144.242	49 Pm Promethium (145)	50 Sm Samarium 150.36	51 Eu Europium 151.964	52 Gd Gadolinium 157.25	53 Tb Terbium 158.92535	54 Dy Dysprosium 162.500	55 Ho Holmium 164.93032	56 Er Erbium 167.259	57 Tm Thulium 168.93421	58 Yb Ytterbium 173.054	59 Lu Lutetium 174.9668	60 Hf Hafnium 178.49
61 Ta Tantalum 180.94788	62 W Tungsten 183.84	63 Re Rhenium 186.207	64 Os Osmium 190.23	65 Ir Iridium 192.222	66 Pt Platinum 195.084	67 Au Gold 196.966569	68 Hg Mercury 200.59	69 Tl Thallium 204.3833	70 Pb Lead 207.2	71 Bi Bismuth 208.98040	72 Po Polonium (209)	73 At Astatine (210)	74 Rn Radon (222)	75 Fr Francium (223)	76 Ra Radium (226)	77 Ac Actinium (227)	78 Th Thorium 232.0377
81 Pa Protactinium 231.03688	82 U Uranium 238.02891	83 Np Neptunium (237)	84 Pu Plutonium (244)	85 Am Americium (243)	86 Cm Curium (247)	87 Bk Berkelium (247)	88 Cf Californium (251)	89 Es Einsteinium (252)	90 Fm Fermium (257)	91 Md Mendelevium (258)	92 No Nobelium (259)	93 Lr Lawrencium (262)	94 Rf Rutherfordium (261)	95 Db Dubnium (262)	96 Sg Seaborgium (266)	97 Bh Bohrium (264)	98 Hs Hassium (277)
101 Mt Meitnerium (268)	102 Ds Darmstadtium (271)	103 Rg Roentgenium (272)	104 Uub Ununbium (285)	105 Uut Ununtrium (286)	106 Uuq Ununquadium (289)	107 Uup Ununpentium (294)	108 Uuh Ununhexium (297)	109 Uus Ununseptium (304)	110 Uuo Ununoctium (315)	111 Uut Ununtrium (315)	112 Uub Ununbium (315)	113 Uut Ununtrium (315)	114 Uuq Ununquadium (315)	115 Uup Ununpentium (315)	116 Uuh Ununhexium (315)	117 Uus Ununseptium (315)	118 Uuo Ununoctium (315)

For elements with no stable isotopes, the mass number of the isotope with the longest half-life is in parentheses.

Design and Interface Copyright © 1997 Michael Dayah (michael@dayah.com). <http://www.ptable.com/>

Ptable.com

Reprinted from Ptable.com—The Dynamic Periodic Table

Visit www.nanooze.org and www.nnin.org/education-training for more nanotechnology resources