基本定数，数式，ならびに単位の換算

原子質量単位	1 amu = 1.6605 × 10^{-27} kg
アボガドロ定数	N = 6.02 × 10^{23} mol^{-1}
ボルツマン定数	k = 1.38065 × 10^{-23} J K^{-1}
電子の電荷	e = 1.6022 × 10^{-19} C
ファラデー定数	F = 9.6485 × 10^{4} C mol^{-1}
電子の質量	m_e = 9.11 × 10^{-31} kg
中性子の質量	m_n = 1.67492716 × 10^{-27} kg
陽子の質量	m_p = 1.67262158 × 10^{-27} kg
プランク定数	h = 6.63 × 10^{-34} J s
真空中の光速	c = 3 × 10^{8} m s^{-1}
(298 K における)ネルンストの式	$E = E^{\circ} - (0.0592 / n) \log K$

クラウジウスークラペイロンの式	$\ln P = - \Delta H_{vap} / RT + B$
理想気体の状態方程式	$PV = nRT$
ド・ブロイの関係式	$\lambda = h / mv$
（ギブズの）自由エネルギー	$G = H - TS$
アレニウスの式	$k = Ae^{-Ea/RT}$
$E = h\nu$	
$\Delta U = q + w$	
$\Delta G = \Delta G^{\circ} + RT \ln Q$	$\Delta G = - nFE$
$w = - P\Delta V$	

標準大気圧 = 101325 Pa

298.15 K におけるRTの値 = 2.4790 kJ mol^{-1}（Rは気体定数）

円周率（π） = 3.1415927

1 Å = 10^{-10} m		1 W = 1 J s^{-1}
1 J = 1 kg m^2 s^{-2}		1 cal = 4.184 J
1 Pa = 1 kg m^{-1} s^{-2} = 1 N m^{-2}		1 bar = 10^5 Pa
1 atm = 1.01325 × 10^5 Pa = 760 mmHg (torr)		
1 電子ボルト／分子 = 96.4853 kJ mol^{-1}		

（次頁）IUPAC(国際純正および応用化学連合)の周期表　[表の下部にある英文は無視してください]

各マスの説明

原子番号
元素記号
元素名
原子量

IUPAC Periodic Table of the Elements

1																	18
1 **H** hydrogen 1.007 94(7)	2											13	14	15	16	17	2 **He** helium 4.002 602(2)
3 **Li** lithium 6.941(2)	4 **Be** beryllium 9.012 182(3)											5 **B** boron 10.811(7)	6 **C** carbon 12.0107(8)	7 **N** nitrogen 14.0067(2)	8 **O** oxygen 15.9994(3)	9 **F** fluorine 18.998 4032(5)	10 **Ne** neon 20.1797(6)
11 **Na** sodium 22.989 770(2)	12 **Mg** magnesium 24.3050(6)	3	4	5	6	7	8	9	10	11	12	13 **Al** aluminium 26.981 538(2)	14 **Si** silicon 28.0855(3)	15 **P** phosphorus 30.973 761(2)	16 **S** sulfur 32.065(5)	17 **Cl** chlorine 35.453(2)	18 **Ar** argon 39.948(1)
19 **K** potassium 39.0983(1)	20 **Ca** calcium 40.078(4)	21 **Sc** scandium 44.955 910(8)	22 **Ti** titanium 47.867(1)	23 **V** vanadium 50.9415(1)	24 **Cr** chromium 51.9961(6)	25 **Mn** manganese 54.938 049(9)	26 **Fe** iron 55.845(2)	27 **Co** cobalt 58.933 200(9)	28 **Ni** nickel 58.6934(2)	29 **Cu** copper 63.546(3)	30 **Zn** zinc 65.409(4)	31 **Ga** gallium 69.723(1)	32 **Ge** germanium 72.64(1)	33 **As** arsenic 74.921 60(2)	34 **Se** selenium 78.96(3)	35 **Br** bromine 79.904(1)	36 **Kr** krypton 83.798(2)
37 **Rb** rubidium 85.4678(3)	38 **Sr** strontium 87.62(1)	39 **Y** yttrium 88.905 85(2)	40 **Zr** zirconium 91.224(2)	41 **Nb** niobium 92.906 38(2)	42 **Mo** molybdenum 95.94(2)	43 **Tc** technetium [97.9072]	44 **Ru** ruthenium 101.07(2)	45 **Rh** rhodium 102.905 50(2)	46 **Pd** palladium 106.42(1)	47 **Ag** silver 107.8682(2)	48 **Cd** cadmium 112.411(8)	49 **In** indium 114.818(3)	50 **Sn** tin 118.710(7)	51 **Sb** antimony 121.760(1)	52 **Te** tellurium 127.60(3)	53 **I** iodine 126.904 47(3)	54 **Xe** xenon 131.293(6)
55 **Cs** caesium 132.905 45(2)	56 **Ba** barium 137.327(7)	57-71 **lanthanoids**	72 **Hf** hafnium 178.49(2)	73 **Ta** tantalum 180.9479(1)	74 **W** tungsten 183.84(1)	75 **Re** rhenium 186.207(1)	76 **Os** osmium 190.23(3)	77 **Ir** iridium 192.217(3)	78 **Pt** platinum 195.078(2)	79 **Au** gold 196.966 55(2)	80 **Hg** mercury 200.59(2)	81 **Tl** thallium 204.3833(2)	82 **Pb** lead 207.2(1)	83 **Bi** bismuth 208.980 38(2)	84 **Po** polonium [208.9824]	85 **At** astatine [209.9871]	86 **Rn** radon [222.0176]
87 **Fr** francium [223.0197]	88 **Ra** radium [226.0254]	89-103 **actinoids**	104 **Rf** rutherfordium [261.1088]	105 **Db** dubnium [262.1141]	106 **Sg** seaborgium [266.1219]	107 **Bh** bohrium [264.12]	108 **Hs** hassium [277]	109 **Mt** meitnerium [268.1388]	110 **Ds** darmstadtium [271]	111 **Rg** roentgenium [272]							

57 **La** lanthanum 138.9055(2)	58 **Ce** cerium 140.116(1)	59 **Pr** praseodymium 140.907 65(2)	60 **Nd** neodymium 144.24(3)	61 **Pm** promethium [144.9127]	62 **Sm** samarium 150.36(3)	63 **Eu** europium 151.964(1)	64 **Gd** gadolinium 157.25(3)	65 **Tb** terbium 158.925 34(2)	66 **Dy** dysprosium 162.500(1)	67 **Ho** holmium 164.930 32(2)	68 **Er** erbium 167.259(3)	69 **Tm** thulium 168.934 21(2)	70 **Yb** ytterbium 173.04(3)	71 **Lu** lutetium 174.967(1)
89 **Ac** actinium [227.0277]	90 **Th** thorium 232.0381(1)	91 **Pa** protactinium 231.035 88(2)	92 **U** uranium 238.028 91(3)	93 **Np** neptunium [237.0482]	94 **Pu** plutonium [244.0642]	95 **Am** americium [243.0614]	96 **Cm** curium [247.0704]	97 **Bk** berkelium [247.0703]	98 **Cf** californium [251.0796]	99 **Es** einsteinium [252.0830]	100 **Fm** fermium [257.0951]	101 **Md** mendelevium [258.0984]	102 **No** nobelium [259.1010]	103 **Lr** lawrencium [262.1097]

Key:

atomic number
Symbol
name
standard atomic weight

Notes

- 'Aluminum' and 'cesium' are commonly used alternative spellings for 'aluminium' and 'caesium'.
- IUPAC 2001 standard atomic weights (mean relative atomic masses) are listed with uncertainties in the last figure in parentheses [R. D. Loss, *Pure Appl. Chem.* **75**, 1107-1122 (2003)]. These values correspond to current best knowledge of the elements in natural terrestrial sources. For elements with no IUPAC assigned standard value, the atomic mass (in unified atomic mass units) or the mass number of the nuclide with the longest known half-life is listed between square brackets.
- Elements with atomic numbers 112, 113, 114, 115, and 116 have been reported but not fully authenticated.