

Atoms

DATA from http://ours.be/sci/aw.php			unified atomic mass unit		/	1.001352742		
Name	Atomic number	Chemical symbol	Atomic weight		Precision	mass / unit	Dozenal	0123456789XE
			Mean	Typical				
hydrogen	1	H	1.00794	1.007825032	6	1.0093034831E+00	1;0140E0	0 1.009303
deuterium		D		2.0141018	10	1.0091883597E+00	1;013X643659	0 1.009188
helium	2	He	4.002602		7	4.0080164892E+00	4;011X291	0 4.008016
				4.00260325	9	4.0080177406E+00	4;011X30X18	0 4.008018
lithium	3	Li	6.941		4	6.9503893846E+00	6;E4X3	0 6.950389
				7.016004	7	7.0254948456E+00	7;03807E2	0 7.025495
beryllium	4	Be	9.012182		7	9.0243731601E+00	9;036149X	0 9.024373
				9.0121822	8	9.0243733604E+00	9;03614X57	0 9.024373
bron	5	B	10.811		5	1.0825624497E+01	X;9XX82	0 10.825624
				11.0053054	9	1.1020192743E+01	E;02XX87258	0 11.020193
carbon	6	C	12.0107		6	1.2026947382E+01	1;003X69	1 1.002246
				12	12	1.2016232908E+01	1;0024073253E2	1 1.001353
carbon-13		C-13		13.0033548	9	1.3020944989E+01	1;10302394X	1 1.085079
nitrogen	7	N	14.0067		6	1.4025647456E+01	1;20383X	1 1.168804
				14.00307401	10	1.40222016556E+01	1;2032065102	1 1.168501
nitrogen 15		N-15		15.000109	8	1.5020400282E+01	1;302E302E	1 1.251700
oxygen	8	O	15.9994		6	1.6021043066E+01	1;403044	1 1.335087
				15.99491462	10	1.6016551620E+01	1;4024726X59	1 1.334713
fluorine	9	F	18.9984032		9	1.9024103144E+01	1;703579773	1 1.585342
				18.99840322	10	1.9024103164E+01	1;70357977E6	1 1.585342
neon	10	Ne	20.1797		6	2.0206997935E+01	1;825984	1 1.683916
				19.9924356	9	2.0019480214E+01	1;80297E373	1 1.668290
sodium	11	Na	22.98976928		10	2.3020868514E+01	1;E030089072	1 1.918406
				22.9897677	9	2.3020866932E+01	1;E0300843E	1 1.918406
magnesium	12	Mg	24.305		5	2.4337878402E+01	2;0407X	1 2.028157
				23.9850423	9	2.4017487882E+01	2;002627665	1 2.001457
aluminium (aluminum)	13	Al	26.9815386		9	2.7018037670E+01	2;302720424	1 2.251503
				26.9815386	9	2.7018037670E+01	2;302720424	1 2.251503
silicon	14	Si	28.0855		6	2.8123492445E+01	2;415949	1 2.343624
				27.9769271	9	2.8014772674E+01	2;402163XE7	1 2.334564
phosphorus	15	P	30.973762		8	3.1015661519E+01	2;70230911	1 2.584638
				30.973762	8	3.1015661519E+01	2;70230911	1 2.584638
sulfur (sulpfur)	16	S	32.065		5	3.2108375683E+01	2;81373	1 2.675698
				31.97207069	10	3.2015320664E+01	2;802258330E	1 2.667943
chlorine	17	Cl	35.453		5	3.5500958774E+01	2;E6018	1 2.958413
				34.96885271	10	3.5016156558E+01	2;E023E0327	1 2.918013
argon	18	Ar	39.948		5	4.0002039351E+01	3;40036	1 3.333503
				39.9623837	9	4.0016442508E+01	3;40244E50X	1 3.334704
potassium	19	K	39.0983		6	3.9151189926E+01	3;319931	1 3.262599
				38.9637074	9	3.9016415257E+01	3;302444784	1 3.251368
calcium	20	Ca	40.078		5	4.0132215207E+01	3;41706	1 3.344351
				39.9625906	9	4.0016649688E+01	3;402492E85	1 3.334721
scandium	21	Sc	44.95591		7	4.5016723763E+01	3;9024X95	1 3.751394
				44.95591	7	4.5016723763E+01	3;9024X95	1 3.751394
titanium	22	Ti	47.867		5	4.7931751717E+01	3;EE221	1 3.994313
				47.9478711	9	4.8012732215E+01	4;001X00223	1 4.001061
vanadium	23	V	50.9415		6	5.1010410724E+01	4;3015EE	1 4.250868
				50.9439617	9	5.1012875754E+01	4;301X2EX96	1 4.251073
chromium	24	Cr	51.9961		6	5.2066437326E+01	4;409698	1 4.338870
				51.9405119	9	5.2010774029E+01	4;401674E0E	1 4.334231
manganese	25	Mn	54.938045		8	5.5012362019E+01	4;7019440X	1 4.584364
				54.938049	8	5.5012366025E+01	4;70194509	1 4.584364
iron	26	Fe	55.845		5	5.5920543896E+01	4;7E068	1 4.660045
				55.9349393	9	5.6010604860E+01	4;80163X9E4	1 4.667550
cobalt	27	Co	58.933195		8	5.9012916428E+01	4;E01X3X03	1 4.917743
				58.9332	6	5.9012921435E+01	4;E01X3E	1 4.917743
nickel	28	Ni	58.6934		6	5.8772797047E+01	4;X93349	1 4.897733
				57.9353462	9	5.8013717796E+01	4;X01E85515	1 4.834476
copper	29	Cu	63.546		5	6.3631961364E+01	5;37700	1 5.302663
				62.9295989	9	6.3014726433E+01	5;3021544X8	1 5.251227
zinc	30	Zn	65.38		4	6.5468442294E+01	5;5575	1 5.455704
				63.9291448	9	6.4015624461E+01	5;4022EEX48	1 5.334635
gallium	31	Ga	69.723		5	6.9817317254E+01	5;99984	1 5.818110
				68.925581	8	6.9018819551E+01	5;902862XE	1 5.751568
germanium	32	Ge	72.64		4	7.2738263203E+01	6;08X4	1 6.061522
				73.9211774	9	7.4021173706E+01	6;203070842	1 6.168431
arsenic	33	As	74.9216		6	7.5022949620E+01	6;30337E	1 6.251912
				74.9216	6	7.5022949620E+01	6;30337E	1 6.251912
selenium	34	Se	78.96		4	7.9066812535E+01	6;7097	1 6.588901

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				79.9165196	9	8.0024626059E+01	6;803667903	1	6.668719
bromine	35	Br	79.904		5	8.0012089524E+01	6;8018E	1	6.667674
				78.9183376	9	7.9025093776E+01	6;703744175	1	6.585424
krypton	36	Kr	83.798		5	8.3911357102E+01	6;EXE2X	1	6.992613
				83.911507	8	8.4025017648E+01	7;00372924	1	7.002085
rubidium	37	Rb	85.4678		6	8.5583415911E+01	7;170019	1	7.131951
				84.9117893	9	8.5026653072E+01	7;103X08179	1	7.085554
strontium	38	Sr	87.62		4	8.7738527283E+01	7;38X4	1	7.311544
				87.9056143	9	8.8024527946E+01	7;403647408	1	7.335377
yttrium	39	Y	88.90585		7	8.9026116707E+01	7;5039168	1	7.418843
				88.90585	7	8.9026116707E+01	7;5039168	1	7.418843
zirconium	40	Zr	91.224		5	9.1347402567E+01	7;74204	1	7.612284
				89.9047037	9	9.0026321599E+01	7;6039597X6	1	7.502193
niobium	41	Nb	92.90638		7	9.3032058394E+01	7;9047492	1	7.752672
				92.90638	7	9.3032058394E+01	7;9047492	1	7.752672
molybdenum	42	Mo	95.96		4	9.6089809155E+01	8;010E	1	8.007484
				97.9054078	9	9.8037848590E+01	8;205549E35	1	8.169821
technetium	43	Tc	99		1	9.9133921491E+01	8;3	1	8.261160
				98.9062546	9	9.9040049278E+01	8;305925660	1	8.253337
ruthenium	44	Ru	101.07		5	1.0120672167E+02	8;52593	1	8.433893
				101.9043495	10	1.0204219983E+02	8;6060E08016	1	8.503517
rhodium	45	Rh	102.9055		7	1.0304470463E+02	8;70652EE	1	8.587059
				102.9055	7	1.0304470463E+02	8;70652EE	1	8.587059
palladium	46	Pd	106.42		5	1.0656395884E+02	8;X6926	1	8.880330
				105.903483	9	1.0604674313E+02	8;X06893228	1	8.837229
silver	47	Ag	107.8682		7	1.0801411788E+02	9;002048	1	9.001176
				106.905093	9	1.0704970805E+02	8;E071X8E52	1	8.920809
cadmium	48	Cd	112.411		6	1.1256306312E+02	9;4690E8	1	9.380255
				113.9033581	10	1.1405743999E+02	9;608330XXX4	1	9.504787
indium	49	In	114.818		6	1.1497331917E+02	9;6E81X9	1	9.581110
				114.903878	9	1.1505931334E+02	9;70865E083	1	9.588276
tin	50	Sn	118.71		5	1.1887058404E+02	9;XX544	1	9.905882
				119.9021966	10	1.2006439338E+02	X;0093331718	1	10.005366
antimony	51	Sb	121.76		5	1.2192470991E+02	X;1E11E	1	10.160392
				120.903818	9	1.2106736971E+02	X;10984E8X8	1	10.088947
tellurium	52	Te	127.6		4	1.2777260992E+02	X;7933	1	10.647717
				129.9062228	10	1.3008195245E+02	X;X0E9744843	1	10.840163
iodine	53	I	126.90447		8	1.2707613905E+02	X;70XE699	1	10.589678
				126.90447	8	1.2707613905E+02	X;70XE699	1	10.589678
xenon	54	Xe	131.293		6	1.3147060560E+02	X;E57926	1	10.955884
				131.9041545	10	1.3208258683E+02	E;00EX862E6	1	11.006882
caesium	55	Cs	132.9054519		10	1.3308523873E+02	E;11033615X4	1	11.090437
				132.90545	8	1.3308523683E+02	E;1103357X	1	11.090436
barium	56	Ba	137.327		6	1.3751276805E+02	E;561X09	1	11.459397
				137.905241	9	1.3809179126E+02	E;611274729	1	11.507649
lanthanum	57	La	138.90547		7	1.3909337331E+02	E;7115423	1	11.591114
				138.906348	9	1.3909425250E+02	E;7116X5055	1	11.591188
cerium	58	Ce	140.116		6	1.4030554085E+02	E;837EE8	1	11.692128
				139.905434	9	1.4009469000E+02	E;811775XX0	1	11.674558
praseodymium	59	Pr	140.90765		8	1.4109826174E+02	E;9121967	1	11.758188
				140.90765	8	1.4109826174E+02	E;9121967	1	11.758188
neodymium	60	Nd	144.242		6	1.4443712226E+02	1;0052E4	2	1.003036
				143.910083	9	1.4410475626E+02	:013102863	1	12.008730
promethium	61	Pm	145		2	1.4519614764E+02	1;01	2	1.008307
				144.912744	9	1.4510877360E+02	1;01137E643	2	1.007700
samarium	62	Sm	150.36		5	1.5056339834E+02	1;06692	2	1.045579
				151.919728	9	1.5212523625E+02	1;081604X95	2	1.056425
europium	63	Eu	151.964		6	1.5216956814E+02	1;082050	2	1.056733
				152.921226	9	1.5312808902E+02	1;091654079	2	1.063390
gadolinium	64	Gd	157.25		5	1.5746271873E+02	1;11568	2	1.093491
				157.924101	9	1.5813773162E+02	1;1217X0005	2	1.098179
terbium	65	Tb	158.92535		8	1.5914033505E+02	1;131825EX	2	1.105141
				158.92534	8	1.5914032504E+02	1;13182594	2	1.105141
dysprosium	66	Dy	162.5		4	1.6271982063E+02	1;1688	2	1.129999
				163.929171	9	1.6415092493E+02	1;1819896E5	2	1.139937
holmium	67	Ho	164.93032		8	1.6515342823E+02	1;191X115X	2	1.146899
				164.93032	8	1.6515342823E+02	1;191X115X	2	1.146899
erbium	68	Er	167.259		6	1.6748525833E+02	1;1E59X6	2	1.163092
				165.93029	8	1.6615475093E+02	1;1X1X34X	2	1.153852
thulium	69	Tm	168.93421		8	1.6916273446E+02	1;211E5256	2	1.174741
				168.93421	8	1.6916273446E+02	1;211E5256	2	1.174741
ytterbium	70	Yb	173.054		6	1.7328809747E+02	1;25355X	2	1.203390
				173.9388581	10	1.7417415256E+02	1;26210E288	2	1.209543
lutetium	71	Lu	174.9668		7	1.7520348500E+02	1;2725376	2	1.216691
				174.9407679	10	1.7517741768E+02	1;272166E244	2	1.216510

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hafnium	72	Hf	178.49		5	1.7873145098E+02	1;2X894	2	1.241191	
				179.9465488	10	1.8018997011E+02	1;3023432788	2	1.251319	
tantalum	73	Ta	180.94788		8	1.8119265586E+02	1;31238XXE	2	1.258282	
				180.947996	9	1.8119277201E+02	1;3123913X2	2	1.258283	
tungsten	74	W	183.84		183.9509326	10	1.8419977081E+02	1;3424925456	2	1.279165
rhenium	75	Re	186.207		6	1.8645889009E+02	1;36560	2	1.294853	
				186.9557508	10	1.8720865376E+02	1;3726067895	2	1.300060	
osmium	76	Os	190.23		5	1.9048733217E+02	1;3X5X2	2	1.322829	
				191.961479	9	1.9222115342E+02	1;4027X1X07	2	1.334869	
iridium	77	Ir	192.217			6	1.9247702007E+02	1;405883	2	1.336646
				192.962924	9	1.9322395312E+02	1;41282EX85	2	1.341833	
platinum	78	Pt	195.084			6	1.9534789839E+02	1;434212	2	1.356583
				194.964774	9	1.952285110E+02	1;4328XX4X6	2	1.355754	
gold	79	Au	196.966569			9	1.9723301402E+02	1;452967942	2	1.369674
				196.96655	8	1.9723299499E+02	1;45296747	2	1.369674	
mercury	80	Hg	200.59			5	2.0086134659E+02	1;48X40	2	1.394870
				201.970626	9	2.0224384022E+02	1;4X2E1432	2	1.404471	
thallium	81	Tl	204.3833			7	2.0465977794E+02	1;507E012	2	1.421248
				204.974412	9	2.0525168956E+02	1;51302E050	2	1.425359	
lead	82	Pb	207.2			4	2.0748028821E+02	1;5359	2	1.440835
				207.976636	9	2.0825797480E+02	1;543119448	2	1.446236	
bismuth	83	Bi	208.9804			7	2.0926309663E+02	1;5531X77	2	1.453216
				208.98038	8	2.0926307661E+02	1;5531X71E	2	1.453216	
polonium	84	Po	210			2	2.1028407589E+02	1;56	2	1.460306
				209.982857	9	2.1026690970E+02	1;563252781	2	1.460187	
astatine	85	At	210			2	2.1028407589E+02	1;56	2	1.460306
				209.987131	9	2.1027118948E+02	1;563307475	2	1.460217	
radon	86	Rn	222			2	2.2230030880E+02	1;66	2	1.543752
				222.0175705	10	2.2231790307E+02	1;6639940558	2	1.543874	
francium	87	Fr	223			2	2.2330166154E+02	1;67	2	1.550706
				223.0197307	10	2.2332141893E+02	1;673X34E395	2	1.550843	
radium	88	Ra	226			2	2.2630571977E+02	1;6X	2	1.571567
				226.0254026	10	2.2633115673E+02	1;6X3E82X485	2	1.571744	
actinium	89	Ac	227			2	2.2730707251E+02	1;6E	2	1.578521
				227.027747	9	2.2733485704E+02	1;6E4027719	2	1.578714	
thorium	90	Th	232.03806			8	2.3235194771E+02	1;744281EX	2	1.613555
				232.0381	7	2.3235198776E+02	1;744282X	2	1.613555	
protactinium	91	Pa	231.03588			8	2.3134841202E+02	1;73422081	2	1.606586
uranium	92	U	238.02891			8	2.3835090178E+02	1;7X426437	2	1.655215
				238.0507826	10	2.3837203977E+02	1;7X45825684	2	1.655367	
neptunium	93	Np	237			2	2.3732059993E+02	1;79	2	1.648060
				237.0481673	10	2.3736883239E+02	1;7945141375	2	1.648395	
plutonium	94	Pu	239			2	2.3932330542E+02	1;7E	2	1.661967
				239.0521565	10	2.3937553247E+02	1;7E460E05E5	2	1.662330	
americium	95	Am	243			2	2.4332871639E+02	1;83	2	1.689783
				243.0613727	10	2.4339017211E+02	1;8348227381	2	1.690210	
curium	96	Cm	247			2	2.4733412736E+02	1;87	2	1.717598
				247.070347	9	2.4740456952E+02	1;874X311X1	2	1.718087	
berkelium	97	Bk	247			2	2.4733412736E+02	1;87	2	1.717598
				247.070299	9	2.4740452145E+02	1;874X301X7	2	1.718087	
californium	98	Cf	252			2	2.5234089107E+02	1;90	2	1.752367
				252.08162	8	2.5242262148E+02	1;9050X359	2	1.752935	
einsteinium	99	Es	252			2	2.5234089107E+02	1;90	2	1.752367
				252.08297	8	2.5242397331E+02	1;90510762	2	1.752944	
fermium	100	Fm	257			2	2.5734765478E+02	1;95	2	1.787136
				257.095099	9	2.5744288242E+02	1;95539373X	2	1.787798	
mendelevium	101	Md	256			2	2.5634630204E+02	1;94	2	1.780183
				256.09405	8	2.5644047926E+02	1;94535194	2	1.780837	
nobelium	102	No	259			2	2.5935036027E+02	1;97	2	1.801044
				259.10102	8	2.5945151692E+02	1;9755027X	2	1.801747	
lawrencium	103	Lr	262			2	2.6235441849E+02	1;9X	2	1.821906
				259.10102	8	2.5945151692E+02	1;9755027X	2	1.801747	
rutherfordium	104	Rf	267			2	2.6736118220E+02	1;X3	2	1.856675
				261.10875	8	2.6146196286E+02	1;99566332	2	1.815708	
dubnium	105	Db	268			2	2.6836253495E+02	1;X4	2	1.863629
				262.11415	8	2.6246872291E+02	1;9X575E53	2	1.822699	
seaborgium	106	Sg	271			2	2.7136659317E+02	1;X7	2	1.884490
				263.11831	8	2.6347424128E+02	1;9E5835X5	2	1.829682	
bohrium	107	Bh	272			2	2.7236794592E+02	1;X8	2	1.891444
				264.12473	8	2.6448202270E+02	1;X0594E28	2	1.836681	
hassium	108	Hs	277			2	2.7737470963E+02	1;E1	2	1.926213
meitnerium	109	Mt	276			2	2.7637335688E+02	1;E0	2	1.919259
				268.13882	8	2.6850154273E+02	1;X46027EE	2	1.864594	
darmstadtium	110	Ds	281			2	2.8138012060E+02	1;E5	2	1.954029
				269.14514	8	2.6950922403E+02	1;X5613E33	2	1.871592	
roentgenium	111	Rg	280			8	2.8037876785E+02	1;E4466617	2	1.947075
copernicium	112	Cn	285			2	2.8538553157E+02	1;E9	2	1.981844
ununtrium	113	Uut	284			2	2.8438417882E+02	1;E8	2	1.974890
ununquadium	114	Unq	289			2	2.8939094254E+02	2;01	2	2.009659
ununpentium	115	Uup	288			2	2.8838958979E+02	2;00	2	2.002705
ununhexium	116	Uuh	293			2	2.9339635350E+02	2;05	2	2.037475
ununoctium	118	Uuo	294			2	2.9439770625E+02	2;06	2	2.044429