

hydrogen 1 H	beryllium 4 Be	lithium 3 Li	helium 2 He
1.0079	9.0122	6.941	4.0026
lithium 3 Li	magnesium 12 Mg	beryllium 4 Be	neon 10 Ne
6.941	24.305	9.0122	20.180
sodium 11 Na	calcium 20 Ca	magnesium 12 Mg	argon 18 Ar
22.990	40.078	24.305	39.948
potassium 19 K	scandium 21 Sc	calcium 20 Ca	krypton 36 Kr
39.098	44.956	40.078	83.80
rubidium 37 Rb	yttrium 39 Y	scandium 21 Sc	xenon 54 Xe
85.468	88.906	44.956	131.29
caesium 55 Cs	zirconium 40 Zr	yttrium 39 Y	radon 86 Rn
132.91	91.224	88.906	[222]
francium 87 Fr	niobium 41 Nb	zirconium 40 Zr	
[223]	92.906	91.224	
	niobium 41 Nb	niobium 41 Nb	
	92.906	92.906	
	vanadium 23 V	niobium 41 Nb	
	50.942	92.906	
	vanadium 23 V	vanadium 23 V	
	50.942	50.942	
	chromium 24 Cr	vanadium 23 V	
	51.996	50.942	
	chromium 24 Cr	chromium 24 Cr	
	51.996	51.996	
	iron 26 Fe	chromium 24 Cr	
	55.845	51.996	
	iron 26 Fe	iron 26 Fe	
	55.845	55.845	
	cobalt 27 Co	iron 26 Fe	
	58.933	55.845	
	cobalt 27 Co	cobalt 27 Co	
	58.933	58.933	
	nickel 28 Ni	cobalt 27 Co	
	58.693	58.933	
	nickel 28 Ni	nickel 28 Ni	
	58.693	58.693	
	zinc 30 Zn	nickel 28 Ni	
	65.39	58.693	
	zinc 30 Zn	zinc 30 Zn	
	65.39	65.39	
	cadmium 48 Cd	zinc 30 Zn	
	112.41	65.39	
	cadmium 48 Cd	cadmium 48 Cd	
	112.41	112.41	
	mercury 80 Hg	cadmium 48 Cd	
	200.59	112.41	
	mercury 80 Hg	mercury 80 Hg	
	200.59	200.59	
	thallium 81 Tl	mercury 80 Hg	
	204.38	200.59	
	thallium 81 Tl	thallium 81 Tl	
	204.38	204.38	
	lead 82 Pb	thallium 81 Tl	
	207.2	204.38	
	lead 82 Pb	lead 82 Pb	
	207.2	207.2	
	ununquadium 114 Uuq	lead 82 Pb	
	[289]	207.2	
	ununquadium 114 Uuq	ununquadium 114 Uuq	
	[289]	114	
	carbon 6 C	ununquadium 114 Uuq	
	12.011	114	
	carbon 6 C	carbon 6 C	
	12.011	12.011	
	nitrogen 7 N	carbon 6 C	
	14.007	12.011	
	nitrogen 7 N	nitrogen 7 N	
	14.007	14.007	
	oxygen 8 O	nitrogen 7 N	
	15.999	14.007	
	oxygen 8 O	oxygen 8 O	
	15.999	15.999	
	fluorine 9 F	oxygen 8 O	
	18.998	15.999	
	fluorine 9 F	fluorine 9 F	
	18.998	18.998	
	chlorine 17 Cl	fluorine 9 F	
	35.453	18.998	
	chlorine 17 Cl	chlorine 17 Cl	
	35.453	35.453	
	argon 18 Ar	chlorine 17 Cl	
	39.948	35.453	
	argon 18 Ar	argon 18 Ar	
	39.948	39.948	

lanthanum 57 La	cerium 58 Ce	praseodymium 59 Pr	neodymium 60 Nd	promethium 61 Pm	samarium 62 Sm	europium 63 Eu	gadolinium 64 Gd	terbium 65 Tb	dysprosium 66 Dy	holmium 67 Ho	erbium 68 Er	thulium 69 Tm	ytterbium 70 Yb
138.91	140.12	140.91	144.24	[145]	150.36	151.96	157.25	158.93	162.50	164.93	167.26	168.93	173.04
actinium 89 Ac	thorium 90 Th	protactinium 91 Pa	uranium 92 U	neptunium 93 Np	plutonium 94 Pu	americium 95 Am	curium 96 Cm	berkelium 97 Bk	californium 98 Cf	einsteinium 99 Es	fermium 100 Fm	mendelevium 101 Md	nobelium 102 No
[227]	232.04	231.04	238.03	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]

* Lanthanide series

* * Actinide series

Elements & Country of Discovery

1	H		23	UK		5	B		6	C		7	N		8	O		9	F		10	Ne																																											
3	Li		19	Sweden		13	Al		14	Si		15	P		16	S		17	Cl		18	Ar																																											
11	Na		12	Mg		26	Fe		27	Co		29	Cu		30	Zn		31	Ga		32	Ge		33	As		34	Se		35	Br		36	Kr																															
19	K		20	Ca		24	Cr		25	Mn		28	Ni		37	Rb		38	Sr		39	Y		41	Nb		42	Mo		43	Tc		44	Ru		45	Rh		46	Pd		47	Ag		48	Cd		49	In		50	Sn		51	Sb		52	Te		53	I		54	Xe	
37	Rb		55	Cs		61	Pm		62	Sm		65	Tb		66	Dy		67	Ho		68	Er		69	Tm		70	Yb		71	Lu																																		
55	Cs		73	Ta		74	W		75	Re		76	Os		77	Ir		78	Pt		79	Au		80	Hg		81	Tl		82	Pb		83	Bi		84	Po		85	At		86	Rn																						
87	Fr		89	Ac		93	Np		94	Pu		95	Am		96	Cm		97	Bk		98	Cf		99	Es		100	Fm		101	Md		102	No		103	Lr																												
104	Rf		105	Db		106	Sg		107	Bh		108	Hs		109	Mt		110	Ds		111	Rg		112	Cn		113	Uut		114	Fl		115	Uup		116	Lv		117	Uus		118	Uuo																						

58	Ce		59	Pr		60	Nd		61	Pm		62	Sm		63	Eu		64	Gd		65	Tb		66	Dy		67	Ho		68	Er		69	Tm		70	Yb		71	Lu	
90	Th		91	Pa		92	U		93	Np		94	Pu		95	Am		96	Cm		97	Bk		98	Cf		99	Es		100	Fm		101	Md		102	No		103	Lr	

Credit given to both where joint or independently discovered. IUPAC recognised only. Collated by Jamie Gallagher, @jamiiebgall

Atomic Radius

31

270

1	H 37																	Hg 31																			
	Li 152	2	Be 112															F 72	Nb 71																		
	Na 186		Mg 160															Cl 100	Ar 98																		
	K 227	3	Ca 197	4	Sc 162	5	Ti 147	6	V 134	7	Cr 128	8	Mn 127	9	Fe 126	10	Cu 128	11	Zn 134	12	Ga 135	13	C 77	14	N 75	15	O 73	16	S 103	17	Se 119	18	Br 114	Kr 112			
	Rb 248		Sr 215		Y 180		Zr 160		Nb 146		Mo 139		Tc 136		Ru 134		Ag 144		Cd 151		In 167		Sn 140		Pb 146		Sb 140		Te 142		I 133		Xe 131				
	Cs 265		Ba 222		La 187		Hf 159		Ta 146		W 139		Rh 137		Os 135		Au 144		Hg 151		Tl 170		Pd 140		Pt 138		Ir 136		Pt 138		Bi 150		Po 140		At 140		Rn 140
	Fr 270		Ra 220		Ac 187		Rf 159		Db 146		Sg 139		Bh 137		Hs 135		Uu 144		Uub 151		Uuc 170		Uuq 146		Uur 146		Uus 150		Uu 140		Uut 140		Uu 140		Uu 140		Uu 140

picometers (pm)

Ce	Pt	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
--	--	--	--	--	--	--	--	--	--	--	--	--	--
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	Nb	Lr
--	--	--	--	--	--	--	--	--	--	--	--	--	--

Electronegativity

0.7

4

18

1	H	2.1											18								
	Li	1.0	Be	1.5											Ne						
	Na	0.9	Mg	1.2											Ar						
	K	0.8	Ca	1.0	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	3.0
	Rb	0.8	Sr	1.0	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	2.6
	Cs	0.7	Ba	0.9	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	2.2
	Fr	0.7	Ra	0.9	Ac	Rf	Db	Sg	Bh	Hs	Mt	Uun	Uuu	Uub	Uuq	Uuq	115	116	117	118	118

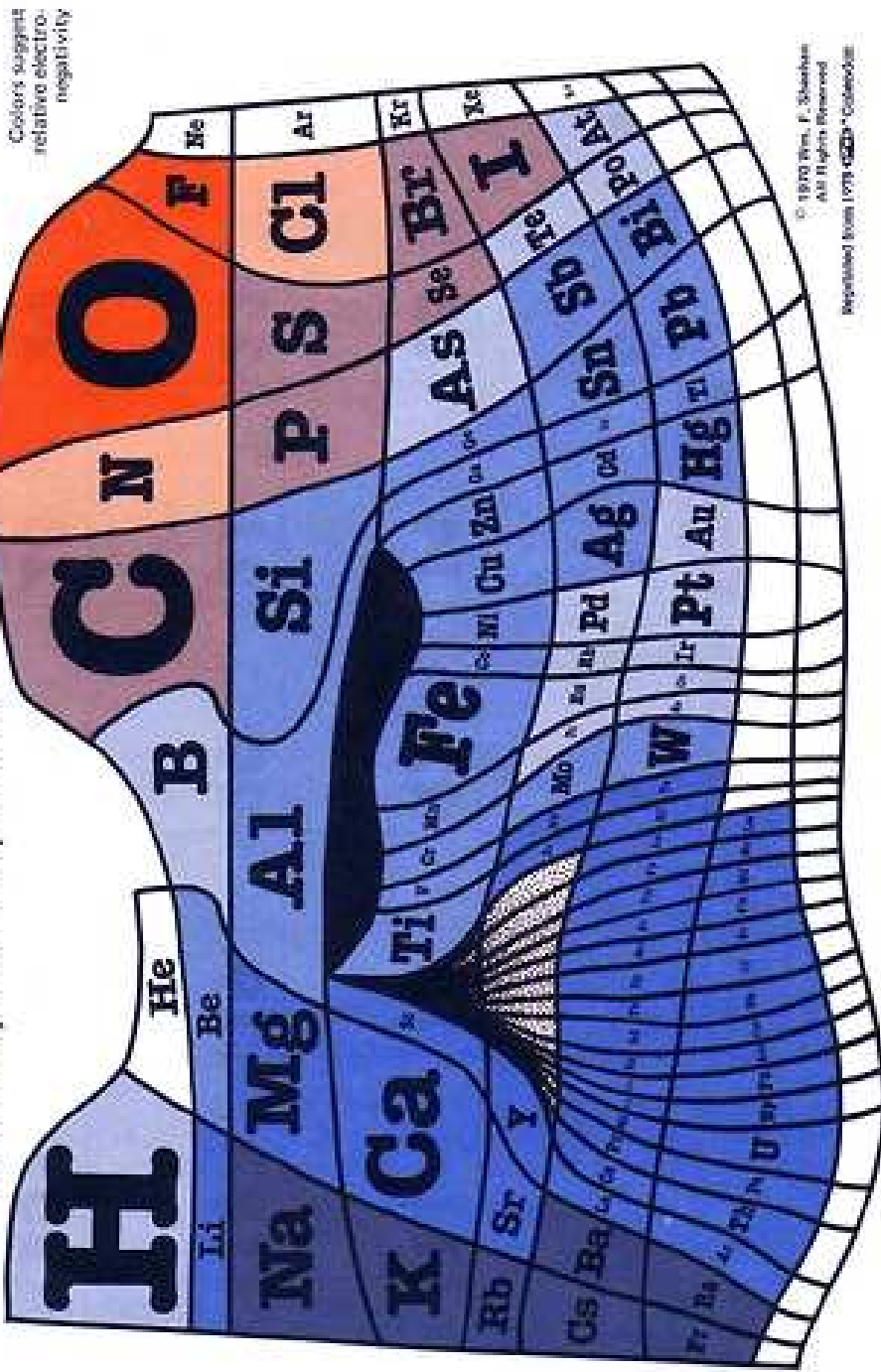
Pauling scale



Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
1.1	1.1	1.1	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
1.3	1.5	1.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.5	--

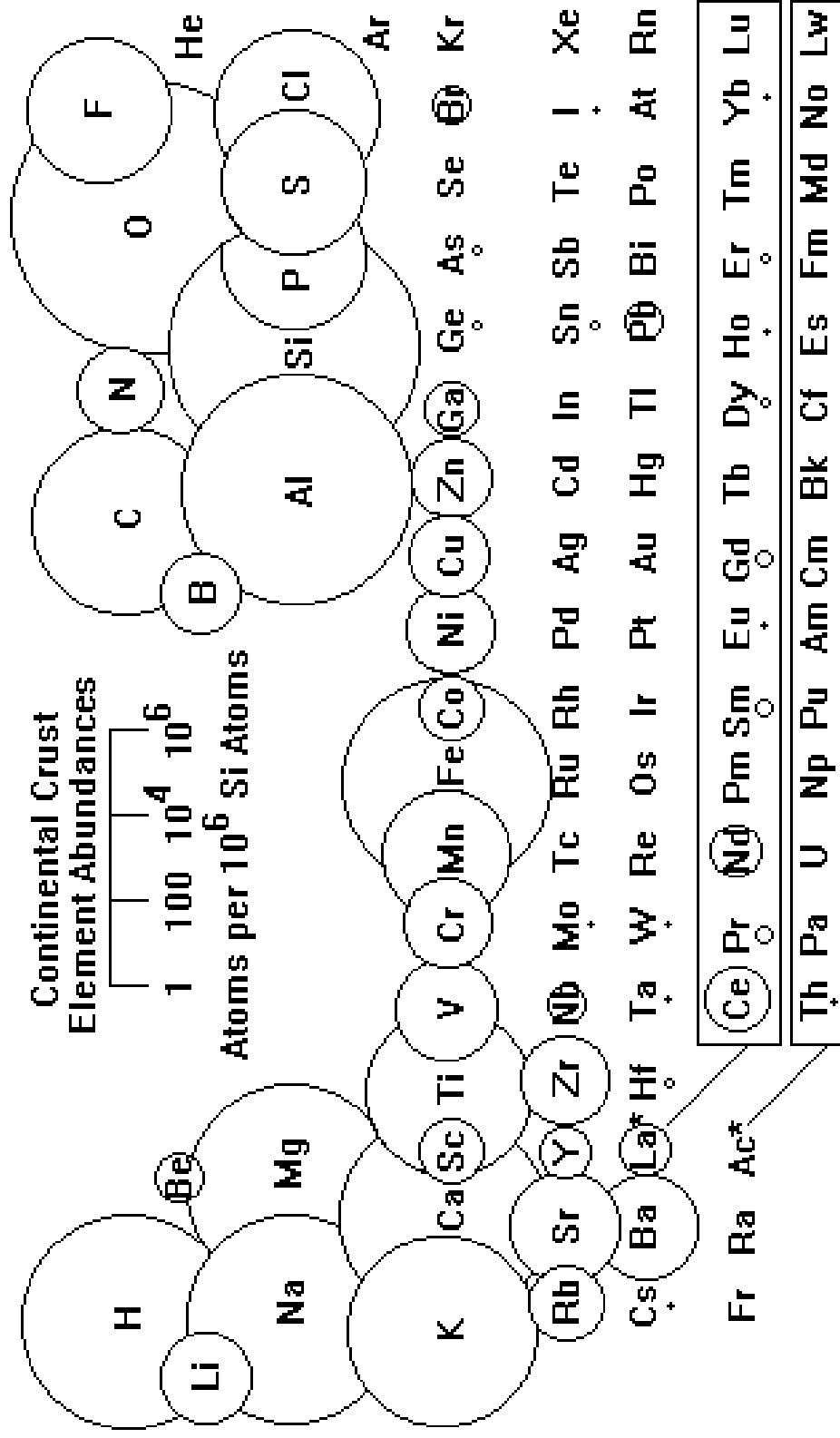
The Elements According to Relative Abundance

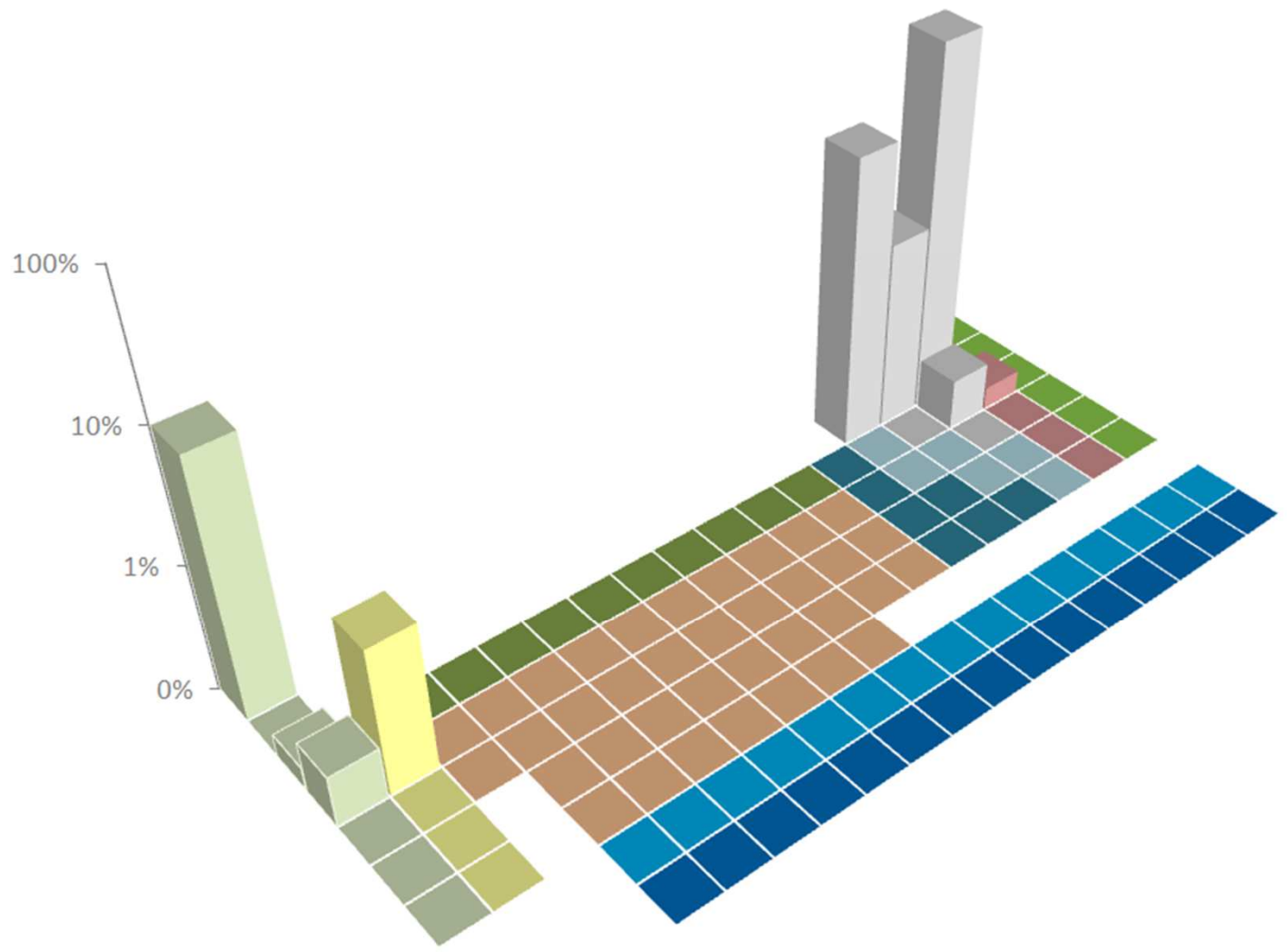
A Periodic Chart by Prof. Wm. F. Sheehan, University of Santa Clara, CA 95053
 Ref. Chemistry, Vol. 49, No. 3, p. 17-18, 1976



Roughly, the size of an element's own niche ("almost waste square") is proportioned to its abundance on Earth's surface, and in addition, certain chemical similarities (e.g., Be and Al, or B and Si) are supported to accommodate some distortions where necessary, FOR EXAMPLE SOME ELEMENTS DO NOT OCCUR NATURALLY.

gested by the positioning of neighbors. The chart emphasizes that in real life a chemist will probably meet O, Si, Al, . . . and that he better do something about it. Periodic tables based upon elemental abundance would, of course, vary from planet to planet. . . . W.F.S.





<http://scienceblogs.com/sciencepunk/2012/10/01/ideas-for-development-the-periodic-tower/>

Human body (rough)

