The Periodic Table of the Stable Isotopes 1 - 83

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Abstract: In MHCE8S theory the stable isotopes are of special interest. Data from Wikipedia. 1st duplication is for sulfur.

		stable isotope	abundance	**duplications**	density
1	hydrogen	1, 2	99.98%, 0.02	g/cm^3	0.07
2	helium	3, 4	0.0002%, 99.9998		0.14
3	lithium	6, 7	7.5%, 92.5		0.53
4	berylium	9	100%		1.85
5	boron	10, 11	20%, 80		2.08
6	carbon	12, 13	98.7%, 1.1		2.27
7	nitrogen	14, 15	99.6%, 0.4		0.80
8	oxygen	16, 17, 18	99.76%, 0.04, 0.20		1.14
9	fluorine	19	100%		1.70
10	neon	20, 21, 22	90.4%, 0.27, 9.25		1.21
11	sodium	23	100%		0.96
12	magnesium	24, 25, 26	79.0%, 10.0, 11.0,		1.73
13	aluminium	27	100%		2.70
14	silicon	28, 29, 30	92.2%, 4.7, 3.1		2.33
15	phosphorus	31	100%		2.34
16	sulfur	32, 33, 34, **36**	94.99%, 0.75, 4.25, 0.01		1.84
17	chlorine	35, 37	76%, 24		1.56
18	argon	**36**, 38, **40**	0.33%, 0.06, 99.6		1.39
19	potassium	39,41	93.25%, 6.73		0.86
20	calcium	**40**,42,43,44,**46**	96.9%,0.65,0.135,209,0.004		1.55
21	scandium	45	100%		2.98
22	titanium	**46**, 47, 48, 49, **50**	8.2%, 7.4, 73.7, 5.4, 5.18		4.51
23	vanadium	51	99.75%		6.11
24	chromium	**50,** 52, 53, **54**	4.34**%**, 83.7, 9.50, 2.36		7.19
25	manganese	55	100%		7.21
26	iron	**54,** 56, 57,**58**	5.85%, 91.75, 2.12, 0.28		7.87

27	cobalt	59	100%	8.90
28	nickel	**58**, 60, 61, 62, **64**	68.08%, 26.2,1.14,3.63,0.93	8.90

The first duplicated stable isotope is for sulfur - argon. Now sulfur has the most allotropes of any element (30) and argon gas **40** is a very useful refrigerant and display gas. Calcium **40** is abundant and important for growing plants and bones. Titanium 48 is a light but strong metal of growing importance. Chromium 52 is anti-corrosive and very handsome as metal plating. Iron 56 has long been one of modern (1000 years) mankind's most useful metals, largely replacing bronze. Nickel **58** is a handsome metal plating similar to chromium but less harmful to the environment to refine. Nickel 60 and 62 are also important as the two strongest bound nuclei known.

Take unduplicated stable isotopes, find sum for 28 nickel - 50 tin: (1 x 8) + (2 x 8) + (3 x 4) +(5 x 1) = 8+8+4+1 = **21.** Now 50 tin-28 nickel periodic table entrants (22) include technetium which is very useful medically for its radioactive action (no gamma ray production) yet is considered to be stable. **nature** apparently is alerting us to this fact- see page 3.

			unduplicated stable isotopes	
28	nickel	**58,** 60 , 61, 62, **64**	3	8.90
29	copper	63, 65	2	8.96
30	zinc	**64,** 66, 67, 68, **70**	3	7.14
31	gallium	69, 71	2	5.91
32	germanium	**70**, 72, 73, **74**	2	5.32
33	arsenic	75	1	5.72
34	selenium	**74**, 76, 77, 78, **80**	3	4.28
35	bromine	79, 81	2	3.10
36	krpton	**80,** 82, **83**, **84, 86**	1	2.41
37	rubdium	**83**		3.53
38	strontium	**84, 86**, 87. 88	2	2.64

39	yttrium	89	1	4.47
40	zirconium	90, 91, **92, 94**	2	6.52
41	niobium	93	1	8.57
42	molybdenum	**92, 94,** 95, **96,** 97, **98**	2	10.28
43	technetium 0	count as stable		11
44	ruthenium	**96, 98,** 99, 100, 101, **102, 104**	3	12.45
45	rhodium	103	1	12.41
46	palladium	**102, 104,** 105, **106, 108, 110**	1	12.02
47	silver	107, 109	2	12.49
48	cadmium	**106, 108, 110,** 111, **112, 114**	1	8.65
49	indium	113	1	7.31

Take unduplcated stable isotopes 50 tin - 82 lead: (16 x 1) + (6 x 2) +(4 x 3) + (5 x 4) + (1 x 5) = 16 + 6 + 4 + 5 + 1 = **32.** Now lead 82 - tin 50 = **32** also**. Nature** now evidently agrees that promethium is best considered as a stable element since it has no medically useful radioactivity and is very rare also.

50	tin	**112,114**,115,116,117,118,119,**120,122,124**	5	7.28
51	antimony	121, **123**	1	6.69
52	tellurium	**120, 122, 123, 124,** 125, **126**	1	6.24
53	iodine	127	1	4.93
54	xenon	**126**, 128, 129, 130, 131, **132**, **134**	4	2.94
55	cesium	133	1	1.93
56	barium	**132**, **134**, 135, **136**, 137, **138**	2	3.51
57	lanthanum	139	1	6.16
58	cerium	**136**, **138**, 140, **142**	1	6.77
59	praseodymim	141	1	6.77
60	neodymium	**142**, 143, 145, 146	3	7.01
61	promethium 0	count as stable		7.26
62	samarium	144, 149, 150, 152, **154**	4	7.51
63	europium	153	1	5.26
64	gadolinium	**154**, 155, **156**, 157, **158**, **160**	2	7.9

65 terbium	159	1	8.23
66 dysprosium	**156,158**,**160**,161,**162**,163,**164**	2	8.54
67 holmium	165	1	8.79
68 erbium	**162**, **164**, 166, 167, **168**, **170**	2	9.06
69 thulium	169	1	9.32
70 ytterbium	**168**, **170**, 171, 172, 173, 174, **176**	4	6.90
71 lutetium	175	1	9.84
72 hafnium	**176**, 177, 178, 179, **180**	3	13.31
73 tantalum	**180**, 181	1	16.69
74 tungsten	182, 183, **184**, 186	3	19.3
75 rhenium	185	1	21.02
76 osmium	**184**, 187, 188, 189, 190, **192**	4	22 .59
77 iridium	191, 193	2	22.56
78 platinum	**192**, 194, 195, **196**, **198**	2	21.45
79 gold	197	1	19.30
80 mercury	**196**,**198**,199,200,201,202,**203**,**204**	4	13.53
81 thallium	**203**, 205	1	11.85
82 lead	**204**, 206, 207, 208	3	11.31

83 bismuth 0 (2 x 10^19 yr) counts as stable but it is weakly radioactive

84 polonium 0 unstable without a doubt

Also stable isotopes not duplicated for atomic nos. 28 - 82 = 50+**4**. now 50 is also the atomic number of tin, so useful in forming the alloy bronze which led to the the rise of the civilization of greece. 4 also indicates the number of genome types every person carries and the number of cyclic universes which have ocurred and most importantly the number by which the critical value of Hubble's constant exceeds the actual value reached (see my ViXra #96 1905.0606). Lastly, we wish to point out technetium's need for classifiction change is being signalled to us by its near-maximum density vs. 1/2 that of osmium (similar action to that of 82 lead

We next wish to discus the abundances listed on p. 1 in more detail. Hydrogen 1 has only hydrogen 2 deuterium (0.02%) accompaning it. Deuterium contains 1 proton and 1 neutron. Helium 4 has only helium 3 (0.0002%) accompaning it. Helium 3 contains 2 protons and 1 neutron and helium 4 an additional neutron. Lithium 7 (92.5%) has only lithium 6 (7.5%) which contains 3 protons and 3 neutrons and lithium 7 an additional neutron. Then with (the 4th member of the periodic table, an even #) comes berylium 9 (100%) which is the first isotope to exist alone. It contains 4 protons and 5 neutrons, both very important numbers in MHCE8S theory.

We don't get another single isotope element of the periodic table until fluorine 19 which happens to be the 9th and an odd number of the periodic table (1,3,5,7 odd nos. all have 2 isotopes - note the #4 and conection with MHCE8S theory. The next odd# periodic table elements 9,11,13,15, all have single isotopes (4 again!), 17,19 both 2 isotopes each; 21,23,25,27 single isotopes again ; 29,31 both with 2 isotopes each; 33 (arsenic-poison), only a single isotope but 35 (bromine) 2 isotopes 79, 81 again and 37 (rubdium) a single isotope; but this isotope is the first odd isotope to be duplicated (printed double black). Now rubdium has proven to be a very useful periodic table element because it enables very stable and accurate atomic clocks.

After rubdium 37, the odd # periodic table is;1 isotope 39, 41, 43, 45 then 2 isotopes 47; then 1 isotope 49; then 1 + **1** isotopes 51; then 53, 55, 57, 59; then (promethium 61),63, 65, 67, 69, 71; 5 #s this time, but 5 is also special in MHCE8S theory ; then **1**+1 isotopes 73; then 1 isotope 75; then 2 isotopes 77 (iridium); then 1 isotope 79 (gold); then **1+** 1 isotopes 81; (thallium); then 1 isotope 83 (bismuth - weakly radioactive).