

Periodic Table of the Elements

vertex42™

Free Downloads at Vertex42.com

1	1.00794	H	$^2S_{1/2}$	2.2	Hydrogen	0.0899	13.5984	-259.14	-252.87	(v) 37	-	1s ¹	+1,-1																												
2	9.6941	Li	$^2S_{1/2}$	0.98	Lithium	0.535	5.3917	180.54	1342	(m) 122	BCC	[He] 2s ¹	+1																												
3	9.012182	Be	1S_0	1.57	Beryllium	1.848	9.3227	1287	2470	(m) 112	HCP	[He] 2s ²	+2																												
4	9.00794		Phase at STP	Gas	Liquid	Solid	Synthetic																																		
5	10.811	B	$^{2p}_{1/2}$	2.04	Absolute Zero	-273.15	°C	Absolute Zero	-273.15	°C	Gravitation Constant	G	$6.67428 \times 10^{-11} \text{ m}^3 \text{ kg}^{-1} \text{ s}^{-2}$																												
6	12.0107	C	$^{3p}_0$	2.55	Atomic Mass Unit	m _u	1.660539x10 ⁻²⁷ kg	Atomic Mass Unit	m _u	1.660539x10 ⁻²⁷ kg	Molar Gas Constant	R	8.314472 J mol ⁻¹ K ⁻¹																												
7	14.0067	N	$^{4s}_{-1/2}$	3.04	Avogadro Constant	6.022142x10 ²³ mol ⁻¹	Avogadro Constant	e	7.218281828	Molar Volume (ideal Gas)	Pi	0.0224110 m ³ /mol																													
8	15.9994	O	$^{3p}_1$	3.44	Base of Natural Logarithms	e	2.718281828	Boltzmann constant	k	1.38065x10 ⁻²³ J/K	Planck Constant	h	6.626069x10 ⁻³⁴ J s																												
9	18.994032	F	$^{2p}_{3/2}$	3.98	Electron Mass	m _e	9.10938215x10 ⁻³¹ kg	Electron Mass	m _e	9.10938215x10 ⁻³¹ kg	Proton-Electron Mass Ratio	m _p /m _e	1836.15267247 J s																												
10	20.1797	Ne	1S_0	0	me.c.2	0.5110 MeV	me.c.2	Rydberg Constant	R _∞	10 973 732 m ⁻¹	Rydberg Constant	R _∞	3.289842x10 ¹⁵ Hz																												
11	22.989770	Na	$^2S_{1/2}$	0.93	Transition Metals	1.848	9.3227	24.3050	Electron Radius (Classical)	r ₀	2.8179403x10 ⁻¹⁵ m	Electron Volt	eV	1.602176x10 ⁻¹⁹ J																											
12	24.3050	Mg	1S_0	1.31	Rare Earth Metals	1.738	7.6462	11.9724	Elementary Charge	e	1.602176x10 ⁻¹⁹ C	Faraday Constant	F	96.485.3399 C/mol																											
13	26.981538	Al	$^{2p}_{1/2}$	3.16	Poor Metals	0.968	5.1391	11.9724	fine-structure constant	α	0.0072973525	First Radiation Constant	2πhc ²	3.7417749x10 ⁻¹⁶ W m ²																											
14	28.0855	Si	$^{3p}_0$	4.00	Metalloids	0.968	5.1391	11.9724	Second Radiation Constant	c ₁	299 792 458 m/s	Speed of Light in Vacuum	c	299 792 458 m/s																											
15	30.97361	P	$^{4s}_{-1/2}$	4.44	Non Metals	0.968	5.1391	11.9724	Speed of sound in air at STP	c _s	343.2 m/s	Speed of sound in air at STP	c _s	343.2 m/s																											
16	32.065	S	$^{3p}_1$	4.88	Non Metals	0.968	5.1391	11.9724	Standard Pressure	P ₀	101 325 Pa	Standard Pressure	P ₀	101 325 Pa																											
17	35.453	Cl	$^{2p}_{3/2}$	5.32																																					
18	39.948	Ar	1S_0	-																																					
19	39.0983	K	$^2S_{1/2}$	0.82	Scandium	1.36	1.36	20	40.078	21	44.955910	22	47.867	23	50.9415	24	51.996	25	54.938049	26	55.845	27	58.933200	28	58.6934	29	63.546	30	65.409	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798
20	40.078	Ca	1S_0	1.00	Titanium	1.54	1.63	21	47.867	22	50.9415	23	51.996	24	54.938049	25	55.845	26	58.933200	27	58.6934	28	63.546	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798		
21	40.078	Sc	$^{2D}_{3/2}$	1.36	Vanadium	1.66	1.66	22	50.9415	23	51.996	24	54.938049	25	55.845	26	58.933200	27	58.6934	28	63.546	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798				
22	40.078	Ti	$^{3F}_{3/2}$	1.54	Manganese	1.55	1.55	23	51.996	24	54.938049	25	55.845	26	58.933200	27	58.6934	28	63.546	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798						
23	40.078	Cr	$^{4F}_{3/2}$	1.63	Iron	1.83	1.83	24	54.938049	25	55.845	26	58.933200	27	58.6934	28	63.546	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798								
24	40.078	Mn	$^{5d}_{1/2}$	1.83	Cobalt	1.88	1.88	25	55.845	26	58.933200	27	58.6934	28	63.546	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798										
25	40.078	Fe	$^{6S}_{1/2}$	1.83	Nickel	1.91	1.91	26	58.933200	27	58.6934	28	63.546	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798												
26	40.078	Co	$^{7F}_{3/2}$	1.88	Nickel	1.91	1.91	27	58.6934	28	63.546	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798														
27	40.078	Ni	$^{8F}_{5/2}$	1.91	Copper	1.90	1.90	28	63.546	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798																
28	40.078	Cu	$^{9S}_{1/2}$	1.90	Zinc	1.65	1.65	29	65.409	30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798																		
29	40.078	Zn	$^{10p}_{1/2}$	1.65				30	67.323	31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798																				
30	40.078	Ge	$^{11p}_{3/2}$	1.81				31	69.723	32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798																						
31	40.078	As	$^{12p}_{5/2}$	2.18				32	72.64	33	74.92160	34	78.76	35	79.904	36	83.798																								
32	40.078	Se	$^{13p}_{7/2}$	2.55				33	74.92160	34	78.76	35	79.904	36	83.798																										
33	40.078	Br	$^{14p}_{9/2}$	2.96				34	78.76	35	79.904	36	83.798																												
34	40.078	Kr	$^{15p}_{11/2}$	3.33				35	79.904	36	83.798																														
35	40.078	Krypton	$^{16p}_{13/2}$	3.70				36	83.798																																
36	40.078							37	83.798																																
37	85.4678	Rb	$^2S_{1/2}$	0.82	Yttrium	1.22	1.22	38	87.62	39	88.9058	40	91.224	92	90.638	93	95.94	94	101.07	95	102.90550	96	106.42	97	107.8682	98	112.411	99	114.818	100	118.710	101	121.760	102	126.503	103	126.90447	104	131.293		
38	85.4678	Sr	1S_0	0.95	Zirconium	1.33	1.33	39	87.62	40	91.224	92	90.638	93	95.94	94	101.07	95	102.90550	96	106.42	97	107.8682	98	112.411	99	114.818	100	118.710	101	121.760	102	126.503	103	126.90447	104	131.293				
39	85.4678	Y	$^{2D}_{3/2}$	1.22	Niobium	2.16	2.16	40	91.224	92	90.638	93	95.94	94	101.07	95	102.90550	96	106.42	97	107.8682	98	112.411	99	114.818	100	118.710	101	121.760	102	126.503	103	126.90447	104	131.293						
40	85.4678	Zr	$^{3F}_{2}$	1.60	Molybdenum	1.60	1.60	41	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
41	85.4678	Nb	$^{4D}_{5/2}$	1.60	Tantalum	2.16	2.16	42	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
42	85.4678	Mo	$^{5F}_{3/2}$	1.60	Technetium	2.20	2.20	43	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
43	85.4678	Tc	$^{6F}_{5/2}$	1.60	Ruthenium	2.20	2.20	44	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
44	85.4678	Ru	$^{7F}_{3/2}$	1.60	Rhenium	2.20	2.20	45	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
45	85.4678	Rh	$^{8F}_{5/2}$	1.60	Ruthenium	2.20	2.20	46	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
46	85.4678	Pd	$^{9F}_{7/2}$	2.20	Ruthenium	2.20	2.20	47	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
47	85.4678	Ag	$^{10F}_{9/2}$	2.24	Ruthenium	2.24	2.24	48	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
48	85.4678	Cd	$^{11F}_{11/2}$	2.24	Ruthenium	2.24	2.24	49	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
49	85.4678	In	$^{12F}_{13/2}$	2.24	Ruthenium	2.24	2.24	50	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104	122.454	105	124.500	106	126.544				
50	85.4678	Sn	$^{13p}_0$	2.55	Ruthenium	2.24	2.24	51	92.078	93	94.7024	94	97.024	95	102.8	96	107.024	97	108.274	98	110.220	99	112.260	100	114.293	101	116.330	102	118.373	103	120.413	104									

Notes-

- Density units are g/cm³ for solids and g/L or kg/cm³ at 0° Celsius for gases
 - Atomic Weight based on ¹²C
 - () indicate mass number of most stable isotope
 - Common Oxidation States in bold
 - Electron Config. based on IUPAC guidelines
 - § indicates crystal structure is unusual or may require explanation
 - (m) Metallic radius, (v) Covalent radius

References

†Nist.gov, *Wolfram.com (Mathematic),
CRC Handbook of Chemistry and Physics
81st Edition, 2000-2001, and others

Periodic Table of the Elements

Design by Vertex42.com
© 2011 Vertex42 LLC. All rights reserved.

Page 3

anthanides

Actinides