

P E R I O D I C T A B L E

Atomic Properties of the Elements

Group		1 IA											13 IIIA	14 IVA	15 VA	16 VIA	17 VIIA	18 VIIIA																																																																																				
1	2	3	4	5	6	7	8		9	10	11	12	5	6	7	8	9	10																																																																																				
		1 H Hydrogen 1.00794 1s 13.5984	2 Li Lithium 6.941 1s2s 5.3917	3 Be Beryllium 9.012182 1s2s2 9.3227	11 Na Sodium 22.989770 [Ne]3s 5.1391	12 Mg Magnesium 24.3050 [Ne]3s2 7.6462	19 K Potassium 39.0983 [Ar]4s 4.3407	20 Ca Calcium 40.078 [Ar]4s2 6.1132	21 Sc Scandium 44.955910 [Ar]3d4s2 6.5615	22 Ti Titanium 47.867 [Ar]3d24s2 6.8281	23 V Vanadium 50.9415 [Ar]3d34s2 6.7462	24 Cr Chromium 51.9961 [Ar]3d54s 6.7665	25 Mn Manganese 54.938049 [Ar]3d54s2 7.4340	26 Fe Iron 55.845 [Ar]3d64s2 7.9024	27 Co Cobalt 58.933200 [Ar]3d74s2 7.8810	28 Ni Nickel 58.6934 [Ar]3d84s 7.6398	29 Cu Copper 63.546 [Ar]3d104s 7.7264	30 Zn Zinc 65.409 [Ar]3d104s2 5.9993	31 Ga Gallium 69.723 [Ar]3d104s24p 7.8994	32 Ge Germanium 72.64 [Ar]3d104s24p2 7.8994	33 As Arsenic 74.92160 [Ar]3d104s24p3 9.7886	34 Se Selenium 78.96 [Ar]3d104s24p4 9.7524	35 Br Bromine 79.904 [Ar]3d104s24p5 11.8138	36 Kr Krypton 83.798 [Ar]3d104s24p6 13.9996	37 Rb Rubidium 85.4678 [Kr]5s 4.1771	38 Sr Strontium 87.62 [Kr]5s2 5.6949	39 Y Yttrium 88.90585 [Kr]4d5s2 6.2173	40 Zr Zirconium 91.224 [Kr]4d25s2 6.6339	41 Nb Niobium 92.90638 [Kr]4d45s 6.7589	42 Mo Molybdenum 95.94 [Kr]4d5s2 7.0924	43 Tc Technetium (98) 95.94 [Kr]4d5s2 7.28	44 Ru Ruthenium 101.07 [Kr]4d75s 7.3605	45 Rh Rhodium 102.90550 [Kr]4d85s 7.4589	46 Pd Palladium 106.42 [Kr]4d10 8.3369	47 Ag Silver 107.8682 [Kr]4d105s 7.5762	48 Cd Cadmium 112.411 [Kr]4d105s2 8.9938	49 In Indium 114.818 [Kr]4d105s25p 5.7864	50 Sn Tin 118.710 [Kr]4d105s25p2 7.3439	51 Sb Antimony 121.760 [Kr]4d105s25p3 8.6084	52 Te Tellurium 127.60 [Kr]4d105s25p4 9.0096	53 I Iodine 126.90447 [Kr]4d105s25p5 10.4513	54 Xe Xenon 131.293 [Kr]4d105s25p6 12.1298	55 Cs Cesium 132.90545 [Xe]6s 3.8939	56 Ba Barium 137.327 [Xe]6s2 5.2117	72 Hf Hafnium 178.49 [Xe]4f145d26s2 6.8251	73 Ta Tantalum 180.9479 [Xe]4f145d36s2 7.5496	74 W Tungsten 183.84 [Xe]4f145d46s2 7.8640	75 Re Rhenium 186.207 [Xe]4f145d56s2 7.8335	76 Os Osmium 190.23 [Xe]4f145d66s2 8.4382	77 Ir Iridium 192.217 [Xe]4f145d76s2 8.9670	78 Pt Platinum 195.078 [Xe]4f145d96s 8.9588	79 Au Gold 196.96655 [Xe]4f145d106s 9.2255	80 Hg Mercury 200.59 [Xe]4f145d106s2 10.4375	81 Tl Thallium 204.3833 [Hg]6p 6.1082	82 Pb Lead 207.2 [Hg]6p2 7.4167	83 Bi Bismuth 208.98038 [Hg]6p3 7.2855	84 Po Polonium (209) [Hg]6p4 8.417 ?	85 At Astatine (210) [Hg]6p5	86 Rn Radon (222) [Hg]6p6 10.7485	87 Fr Francium (223) [Rn]7s 4.0727	88 Ra Radium (226) [Rn]7s2 5.2784	104 Rf Rutherfordium (261) [Rn]5f146d27s2? 6.0 ?	105 Db Dubnium (262)	106 Sg Seaborgium (266)	107 Bh Bohrium (264)	108 Hs Hassium (277)	109 Mt Meitnerium (268)	110 Uun Ununnilium (281)	111 Uuu Unununium (272)	112 Uub Ununbium (285)	114 Uuq Ununquadium (289)	116 Uuh Ununhexium (292)	57 La Lanthanum 138.9055 [Xe]5d6s2 5.5769	58 Ce Cerium 140.116 [Xe]4f5d6s2 5.5387	59 Pr Praseodymium 140.90765 [Xe]4f36s2 5.473	60 Nd Neodymium 144.24 [Xe]4f46s2 5.5250	61 Pm Promethium (145) [Xe]4f56s2 5.582	62 Sm Samarium 150.36 [Xe]4f66s2 5.6437	63 Eu Europium 151.964 [Xe]4f76s2 5.6704	64 Gd Gadolinium 157.25 [Xe]4f75d6s2 6.1498	65 Tb Terbium 158.92534 [Xe]4f96s2 5.8638	66 Dy Dysprosium 162.500 [Xe]4f106s2 5.9389	67 Ho Holmium 164.93032 [Xe]4f116s2 6.0215	68 Er Erbium 167.259 [Xe]4f126s2 6.1077	69 Tm Thulium 168.93421 [Xe]4f136s2 6.1843	70 Yb Ytterbium 173.04 [Xe]4f146s2 6.2542	71 Lu Lutetium 174.967 [Xe]4f145d6s2 5.4259	89 Ac Actinium (227) [Rn]6d7s2 5.17	90 Th Thorium 232.0381 [Rn]6d27s2 6.3067	91 Pa Protactinium 231.03588 [Rn]5f26d7s2 5.89	92 U Uranium 238.02891 [Rn]5f36d7s2 6.1941	93 Np Neptunium (237) [Rn]5f46d7s2 6.2657	94 Pu Plutonium (244) [Rn]5f77s2 6.0260	95 Am Americium (243) [Rn]5f77s2 5.9738	96 Cm Curium (247) [Rn]5f76d7s2 5.9914	97 Bk Berkelium (247) [Rn]5f97s2 6.1979	98 Cf Californium (251) [Rn]5f107s2 6.2817	99 Es Einsteinium (252) [Rn]5f117s2 6.42	100 Fm Fermium (257) [Rn]5f127s2 6.50	101 Md Mendelevium (258) [Rn]5f137s2 6.58	102 No Nobelium (259) [Rn]5f147s2 6.65	103 Lr Lawrencium (262) [Rn]5f147s27p? 4.9 ?

non-metals

alkali metals

alkali earth metals

transition metals

poor metals

halogens

noble gases

rare earth metals

Atomic Properties of Cerium (Ce):

Symbol: Ce

Name: Cerium

Atomic Number: 58

Atomic Weight: 140.116

Ground-state Configuration: [Xe]4f5d6s2

Ground-state Level: 1G₄

Ionization Energy (eV): 5.5387

†Based upon ¹²C. () indicates the mass number of the most stable isotope.