

DiGaetano WCSU

1

Grp 1 = Alkali Metal Family

Hydrogen 1.007 NM 1H 1
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Grp 2 = Alkaline-Earth Metal Family

2

Lithium 6.941 M 3Li 2-1	Beryllium 9.012 M 4Be 2-2
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Sodium 22.989 M 11Na 2-8-1	Magnesium 24.305 M 12Mg 2-8-2
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Atomic Mass (μ) ← 22.989 M

Atomic Number ← 11 Na → Symbol

Bohr e- configuration ← 2-8-1

Metal (M), Nonmetal (NM),
Metalloid (Me), Noble Gas (NG)

Grp 18 = Noble Gas Family 18

Grp 17 = Halogen Family

Helium 4.002 NG 2He 2

Groups 3-11 = Transition Metals										13	14	15	16	17	18		
										Boron 10.81 Me 5B 2-3	Carbon 12.01 NM 6C 2-4	Nitrogen 14.006 NM 7N 2-5	Oxygen 15.99 NM 8O 2-6	Fluorine 18.998 NM 9F 2-7	Neon 20.179 NG 10Ne 2-8		
										Aluminum 26.98 M 13Al 2-8-3	Silicon 28.085 Me 14Si 2-8-4	Phosphorus 30.97 NM 15P 2-8-5	Sulfur 32.06 NM 16S 2-8-6	Chlorine 35.452 NM 17Cl 2-8-7	Argon 39.948 NG 18Ar 2-8-8		
Potassium 39.098 M 19K 2-8-8-1	Calcium 40.078 M 20Ca 2-8-8-2	Scandium 44.955 M 21Sc 2-8-9-2	Titanium 47.867 M 22Ti 2-8-10-2	Vanadium 50.941 M 23V 2-8-11-2	Chromium 51.996 M 24Cr 2-8-13-1	Manganese 54.938 M 25Mn 2-8-13-2	Iron 55.845 M 26Fe 2-8-14-2	Cobalt 58.93 M 27Co 2-8-15-2	Nickel 58.693 M 28Ni 2-8-16-2	Copper 63.546 M 29Cu 2-8-18-1	Zinc 63.39 M 30Zn 2-8-18-2	Gallium 69.72 M 31Ga 2-8-18-3	Germanium 72.61 Me 32Ge 2-8-18-4	Arsenic 74.92 Me 33As 2-8-18-5	Selenium 78.96 NM 34Se 2-8-18-6	Bromine 79.904 NM 35Br 2-8-18-7	Krypton 83.80 NG 36Kr 2-8-18-8
Rubidium 85.467 M 37Rb 2-8-18-8-1	Strontium 87.62 M 38Sr 2-8-18-8-2	Yttrium 88.905 M 39Y 2-8-18-9-2	Zirconium 91.224 M 40Zr 2-8-18-10-2	Niobium 92.906 M 41Nb 2-8-18-12-1	Molybdenum 95.94 M 42Mo 2-8-18-13-1	Technetium (98) M 43Tc 2-8-18-14-1	Ruthenium 101.07 M 44Ru 2-8-18-15-1	Rhodium 102.905 M 45Rh 2-8-18-16-1	Palladium 106.42 M 46Pd 2-8-18-18	Silver 107.86 M 47Ag 2-8-18-18-1	Cadmium 112.41 M 48Cd 2-8-18-18-2	Indium 114.81 M 49In 2-8-18-18-3	Tin 118.71 M 50Sn 2-8-18-18-4	Antimony 121.76 Me 51Sb 2-8-18-18-5	Tellurium 127.60 Me 52Te 2-8-18-18-6	Iodine 126.904 NM 53I 2-8-18-18-7	Xenon 131.29 NG 54Xe 2-8-18-18-8
Cesium 132.905 M 55Cs **18-8-1	Barium 137.32 M 56Ba 18-8-2	Lanthanum 138.90 M 57La 18-9-2	Hafnium 178.49 M 72Hf 32-10-2	Tantalum 180.94 M 73Ta 32-11-2	Tungsten 183.84 M 74W 32-12-2	Rhenium 186.207 M 75Re 32-13-2	Osmium 190.23 M 76Os 32-14-2	Iridium 192.22 M 77Ir 32-15-2	Platinum 195.07 M 78Pt 32-17-1	Gold 196.96 M 79Au 32-18-1	Mercury 200.59 M 80Hg 32-18-2	Thallium 204.38 M 81Tl 32-18-3	Lead 207.2 M 82Pb 32-18-4	Bismuth 209 M 83Bi 32-18-5	Polonium (209) Me 84Po 32-18-6	Astatine (210) Me 85At 32-18-7	Radon (222) NG 86Rn 32-18-8
Francium (223) M 87Fr 32-18-8-1	Radium (226) M 88Ra 32-18-8-2	Actinium (227) M 89Ac 32-18-9-2	Rutherfordium (267) M 104Rf	Dubnium (268) M 105Db	Seaborgium (271) M 106Sg	Bohrium (272) M 107Bh	Hassium (270) M 108Hs	Meitnerium (276) M 109Mt	Darmstadtium (281) M 110Ds	Roentgenium (280) M 111Rg	Copernicium (285) M 112Cn	Nihonium (286) M 113Nh	Flerovium (289) M 114Fl	Moscovium (289) M 115Mc	Livermorium (293) M 116Lv	Tennessee (294) SM 117Ts	Oganessine (294) 118Og

These ** indicate that there are energy levels of 2-8-18 for elements of atomic number 55 & above

Key:

Italicized symbols = synthetic (human made) although 43Tc & 94Pu are slightly problematic.

An entry in () indicates the longest-lived isotope of an element for which the atomic mass is indeterminate

Cerium 140 M 58Ce	Praseodymium 141 M 59Pr	Neodymium 142 M 60Nd	Promethium (145) M 61Pm	Samarium 152 M 62Sm	Europium 153 M 63Eu	Gadolinium 158 M 64Gd	Terbium 159 M 65Tb	Dysprosium 164 M 66Dy	Holmium 165 M 67Ho	Erbium 168 M 68Er	Thulium 169 M 69Tm	Ytterbium 174 M 70Yb	Lutetium 175 M 71Lu
Thorium 232 M 90Th	Protactinium 231 M 91Pa	Uranium 238 M 92U	Neptunium (237) M 93Np	Plutonium (244) M 94Pu	Americium (243) M 95Am	Curium (247) M 96Cm	Berkelium (247) M 97Bk	Californium (251) M 98Cf	Einsteinium (252) M 99Es	Fermium (257) M 100Fm	Mendelevium (258) M 101Md	Nobelium (259) M 102No	Lawrencium (262) M 103Lr