

Color the periodic table below: (Need help look at page 518 in your textbook)

- Metals: Green
- Non-metals: Blue
- Metalloids: Pink

Periodic Table of the Elements

1 H Hydrogen 1.0																	18 He Helium 4.0
2 Li Lithium 6.9	3 Be Beryllium 9.0											13 B Boron 10.8	14 C Carbon 12.0	15 N Nitrogen 14.0	16 O Oxygen 16.0	17 F Fluorine 19.0	18 Ne Neon 20.2
3 Na Sodium 23.0	4 Mg Magnesium 24.3											13 Al Aluminum 27.0	14 Si Silicon 28.1	15 P Phosphorus 31.0	16 S Sulphur 32.1	17 Cl Chlorine 35.5	18 Ar Argon 39.9
4 K Potassium 39.1	20 Ca Calcium 40.1	21 Sc Scandium 45.0	22 Ti Titanium 47.9	23 V Vanadium 50.9	24 Cr Chromium 52.0	25 Mn Manganese 54.9	26 Fe Iron 55.8	27 Co Cobalt 58.9	28 Ni Nickel 58.7	29 Cu Copper 63.5	30 Zn Zinc 65.4	31 Ga Gallium 69.7	32 Ge Germanium 72.6	33 As Arsenic 74.9	34 Se Selenium 79.0	35 Br Bromine 79.9	36 Kr Krypton 83.8
5 Rb Rubidium 85.5	38 Sr Strontium 87.6	39 Y Yttrium 88.9	40 Zr Zirconium 91.2	41 Nb Niobium 92.9	42 Mo Molybdenum 95.9	43 Tc Technetium (98)	44 Ru Ruthenium 101.1	45 Rh Rhodium 102.9	46 Pd Palladium 106.4	47 Ag Silver 107.9	48 Cd Cadmium 112.4	49 In Indium 114.8	50 Sn Tin 118.7	51 Sb Antimony 121.8	52 Te Tellurium 127.6	53 I Iodine 126.9	54 Xe Xenon 131.3
6 Cs Cesium 132.9	56 Ba Barium 137.3	57 La Lanthanum 138.9	72 Hf Hafnium 178.5	73 Ta Tantalum 180.9	74 W Tungsten 183.8	75 Re Rhenium 186.2	76 Os Osmium 190.2	77 Ir Iridium 192.2	78 Pt Platinum 195.1	79 Au Gold 197.0	80 Hg Mercury 200.6	81 Tl Thallium 204.4	82 Pb Lead 207.2	83 Bi Bismuth 209.0	84 Po Polonium (209)	85 At Astatine (210)	86 Rn Radon (222)
7 Fr Francium (223)	88 Ra Radium (226)	89 Ac Actinium (227)	104 Rf Rutherfordium (261)	105 Db Dubnium (262)	106 Sg Seaborgium (263)	107 Bh Bohrium (262)	108 Hs Hassium (265)	109 Mt Meitnerium (266)	110 Ds Darmstadtium (281)	111 Rg Roentgenium (272)	112 Uub* Ununbium (285)	113 Uut* Ununtrium (284)	114 Uuq* Ununquadium (289)	115 Uup* Ununpentium (288)	116 Uuh* Ununhexium (292)		

Atomic Number → 22    4+    ← Ion charge(s)  
 Symbol → Ti    3+  
 Name → Titanium  
 Atomic Mass → 47.9

metaloid

\* Temporary names

Based on mass of C-12 at 12.00.

Any value in parentheses is the mass of the most stable or best known isotope for elements that do not occur naturally.

58 Ce Cerium 140.1	59 Pr Praseodymium 140.9	60 Nd Neodymium 144.2	61 Pm Promethium (145)	62 Sm Samarium 150.4	63 Eu Europium 152.0	64 Gd Gadolinium 157.3	65 Tb Terbium 158.9	66 Dy Dysprosium 162.5	67 Ho Holmium 164.9	68 Er Erbium 167.3	69 Tm Thulium 168.9	70 Yb Ytterbium 173.0	71 Lu Lutetium 175.0
90 Th Thorium 232.0	91 Pa Protactinium 231.0	92 U Uranium 238.0	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (251)	99 Es Einsteinium (252)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Nobelium (259)	103 Lr Lawrencium (262)

Label the following elements as a metal, non-metal, or metalloid

- nonmetal C      metal Pd      nonmetal Xe
- metal Mg      nonmetal H      metalloid Si
- metal Bi      metal Es      nonmetal O
- metal Na      nonmetal Ne      metalloid B

1 **Color the periodic table below:**  
 1A Representative Elements: yellow  
 2A Transition Metals: orange  
 Inner Transition Metals: green

1 1A hydrogen 1 H 1.0079	2 2A beryllium 4 Be 9.0122																	18 8A helium 2 He 4.0026
3 3A sodium 11 Na 22.990	4 4A magnesium 12 Mg 24.305	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9 8B	10 8B	11 1B	12 2B	13 3A aluminum 13 Al 26.982	14 4A silicon 14 Si 28.086	15 5A phosphorus 15 P 30.974	16 6A sulfur 16 S 32.065	17 7A chlorine 17 Cl 35.453	18 argon 18 Ar 39.948	
4 4A potassium 19 K 39.098	5 5A calcium 20 Ca 40.078	21 3B scandium 21 Sc 44.956	22 4B titanium 22 Ti 47.887	23 5B vanadium 23 V 50.942	24 6B chromium 24 Cr 51.996	25 7B manganese 25 Mn 54.938	26 8B iron 26 Fe 55.845	27 8B cobalt 27 Co 58.933	28 8B nickel 28 Ni 58.693	29 1B copper 29 Cu 63.546	30 2B zinc 30 Zn 65.38	31 3A gallium 31 Ga 69.723	32 4A germanium 32 Ge 72.61	33 5A arsenic 33 As 74.922	34 6A selenium 34 Se 78.96	35 7A bromine 35 Br 79.904	36 argon 36 Kr 83.80	
5 5A rubidium 37 Rb 85.468	6 6A strontium 38 Sr 87.62	37 4B yttrium 39 Y 88.906	40 5B zirconium 40 Zr 91.224	41 6B niobium 41 Nb 92.906	42 7B molybdenum 42 Mo 95.94	43 8B technetium 43 Tc [98]	44 8B ruthenium 44 Ru 101.07	45 8B rhodium 45 Rh 102.91	46 8B palladium 46 Pd 106.42	47 1B silver 47 Ag 107.87	48 2B cadmium 48 Cd 112.41	49 3A indium 49 In 114.82	50 4A tin 50 Sn 118.71	51 5A antimony 51 Sb 121.76	52 6A tellurium 52 Te 127.60	53 7A iodine 53 I 126.90	54 argon 54 Xe 131.29	
6 6A cesium 55 Cs 132.91	7 7A barium 56 Ba 137.33	57-70 * lanthanum 57 La 138.91	71 6B hafnium 71 Hf 178.49	72 7B tantalum 72 Ta 180.95	73 8B tungsten 73 W 183.84	74 8B rhenium 74 Re 186.21	75 8B osmium 75 Os 190.23	76 8B iridium 76 Ir 192.22	77 8B platinum 77 Pt 195.08	78 1B gold 78 Au 196.97	79 2B mercury 79 Hg 200.59	80 3A thallium 80 Tl 204.38	81 4A lead 81 Pb 207.2	82 5A bismuth 82 Bi 208.98	83 6A polonium 83 Po [209]	84 7A astatine 84 At [210]	85 argon 85 Rn [222]	
7 7A francium 87 Fr [223]	88 * radium 88 Ra [226]	89-102 ** actinium 89 Ac [227]	103 6B rutherfordium 103 Rf [261]	104 7B dubnium 104 Db [262]	105 8B seaborgium 105 Sg [266]	106 8B bohrium 106 Bh [264]	107 8B hassium 107 Hs [269]	108 8B meitnerium 108 Mt [268]	109 8B darmstadtium 109 Ds [271]	110 1B roentgenium 110 Rg [272]	111 2B copernicium 111 Cn [277]	112 3A flerovium 112 Fl [277]	113 4A nihonium 113 Nh [278]	114 5A moscovium 114 Mc [278]	115 6A tennessine 115 Ts [279]	116 7A oganesson 116 Og [279]	117 argon 117 [289]	

\* Lanthanide series

lanthanum 57 La 138.91	cerium 58 Ce 140.12	praseodymium 59 Pr 140.91	neodymium 60 Nd 144.24	promethium 61 Pm [145]	samarium 62 Sm 150.36	europium 63 Eu 151.96	gadolinium 64 Gd 157.25	terbium 65 Tb 158.93	dysprosium 66 Dy 162.50	holmium 67 Ho 164.93	erbium 68 Er 167.26	thulium 69 Tm 168.93	ytterbium 70 Yb 173.04
---------------------------------	------------------------------	------------------------------------	---------------------------------	---------------------------------	--------------------------------	--------------------------------	----------------------------------	-------------------------------	----------------------------------	-------------------------------	------------------------------	-------------------------------	---------------------------------

\*\* Actinide series

actinium 89 Ac [227]	thorium 90 Th 232.04	protactinium 91 Pa 231.04	uranium 92 U 238.03	neptunium 93 Np [237]	plutonium 94 Pu [244]	americium 95 Am [243]	curium 96 Cm [247]	berkelium 97 Bk [247]	californium 98 Cf [251]	einsteinium 99 Es [252]	fermium 100 Fm [257]	mendelevium 101 Md [258]	nobelium 102 No [259]
-------------------------------	-------------------------------	------------------------------------	------------------------------	--------------------------------	--------------------------------	--------------------------------	-----------------------------	--------------------------------	----------------------------------	----------------------------------	-------------------------------	-----------------------------------	--------------------------------

Circle the following element that is a metalloid

- Argon    Germanium    Bismuth    Zinc    Hydrogen

Circle the following element that is not a transition metal

- Osmium    Titanium    Gold    Radon    Copper

Circle all of the following elements that are representative elements

- Sulfur    ~~Cerium~~    Sodium    Aluminum    ~~Iron~~

Circle the following element that is an inner transition metal

- Nitrogen    Hassium    Californium    Mercury    Lithium

There are 18 groups and 7 periods in the periodic table.

Chlorine has 7 valence electrons

Groups 3 – 12 are called the transition metals.

Write the symbol of the element that is in the 3<sup>rd</sup> period and group 13 Al

Write the symbol of the element that is in the 5<sup>th</sup> period and group 11 Ag

Use the following words to match up to the descriptions below.

Representative Elements, Transition Metals, Inner Transition Metals, Periods, Groups, Lanthanide Series, Actinide Series, Metals, Non-metals, Metalloids, Alkali Metals, Alkaline Earth Metals, Halogens, Noble Gases

actinide series all elements in this series are radioactive

non-metals poor conductors of heat & electricity; solids are dull & brittle

representative elements made up of groups 1, 2, & 13-18

groups vertical columns on the periodic table; all elements have similar chemical & physical properties; all elements have the same number of valence electrons

inner transition metals made up of the Lanthanide series and the Actinide series

noble gases do not naturally combine with other elements

metals are ductile, malleable and lustrous

alkaline earth metals all elements of this group have 2 valence electrons

transition metals made up of groups 3-12

halogens elements in this group will easily bond with an alkali metal to form a salt

lanthanide series the "Rare Earths Elements"

periods horizontal rows, atomic number increases as you move across a the row

alkali metals all elements in this group have 1 valence electron

metalloids have the properties of both metals & non-metals