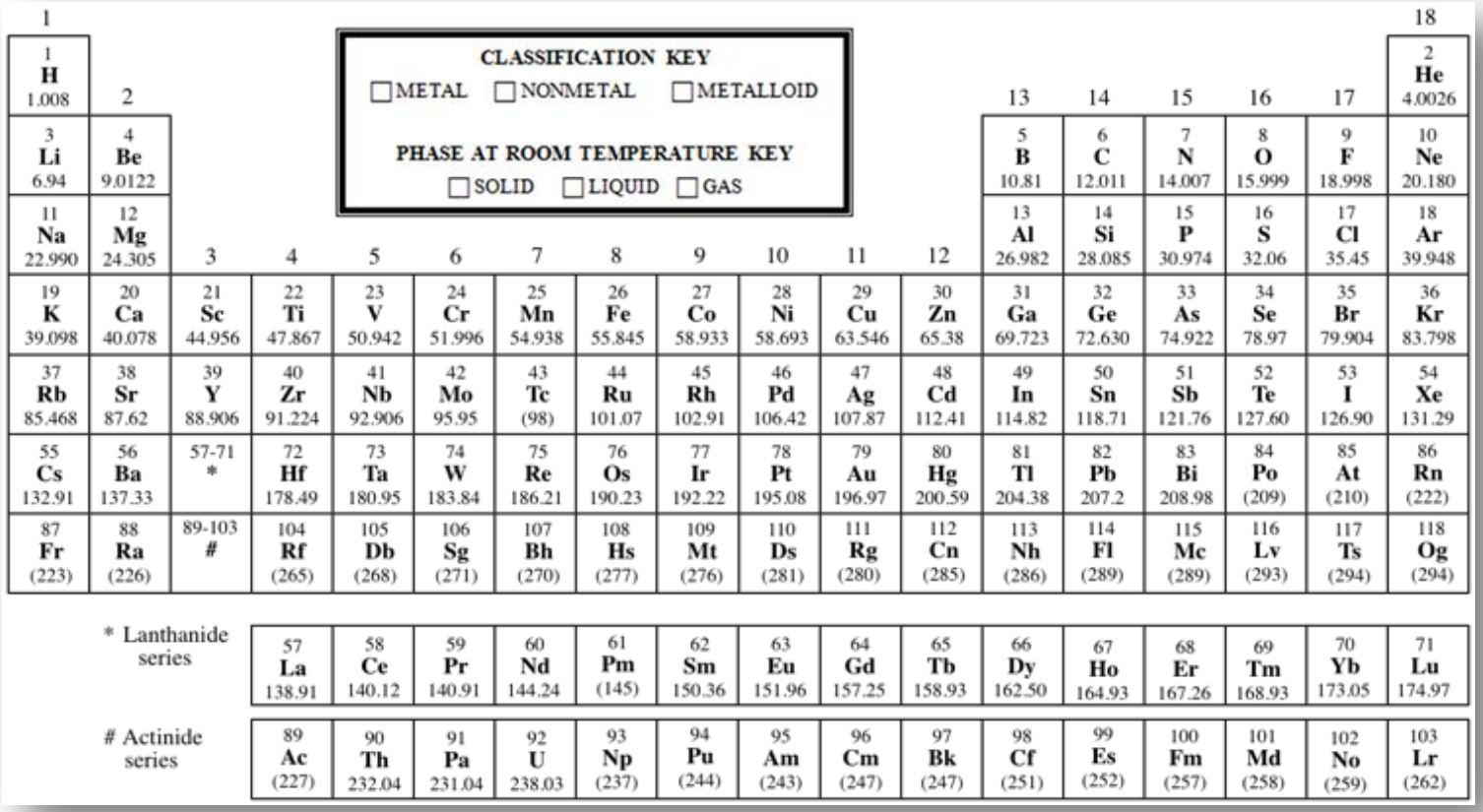
Periodic Table Code Activity

Glue the periodic table on the <u>LAST</u> (or BACK) page of your notebook (4C). You will need a black marker and colored pencils.



CLASSIFICATION KEY

☐ METAL ☐ NONMETAL ☐ METALLOID

PHASE AT ROOM TEMPERATURE KEY

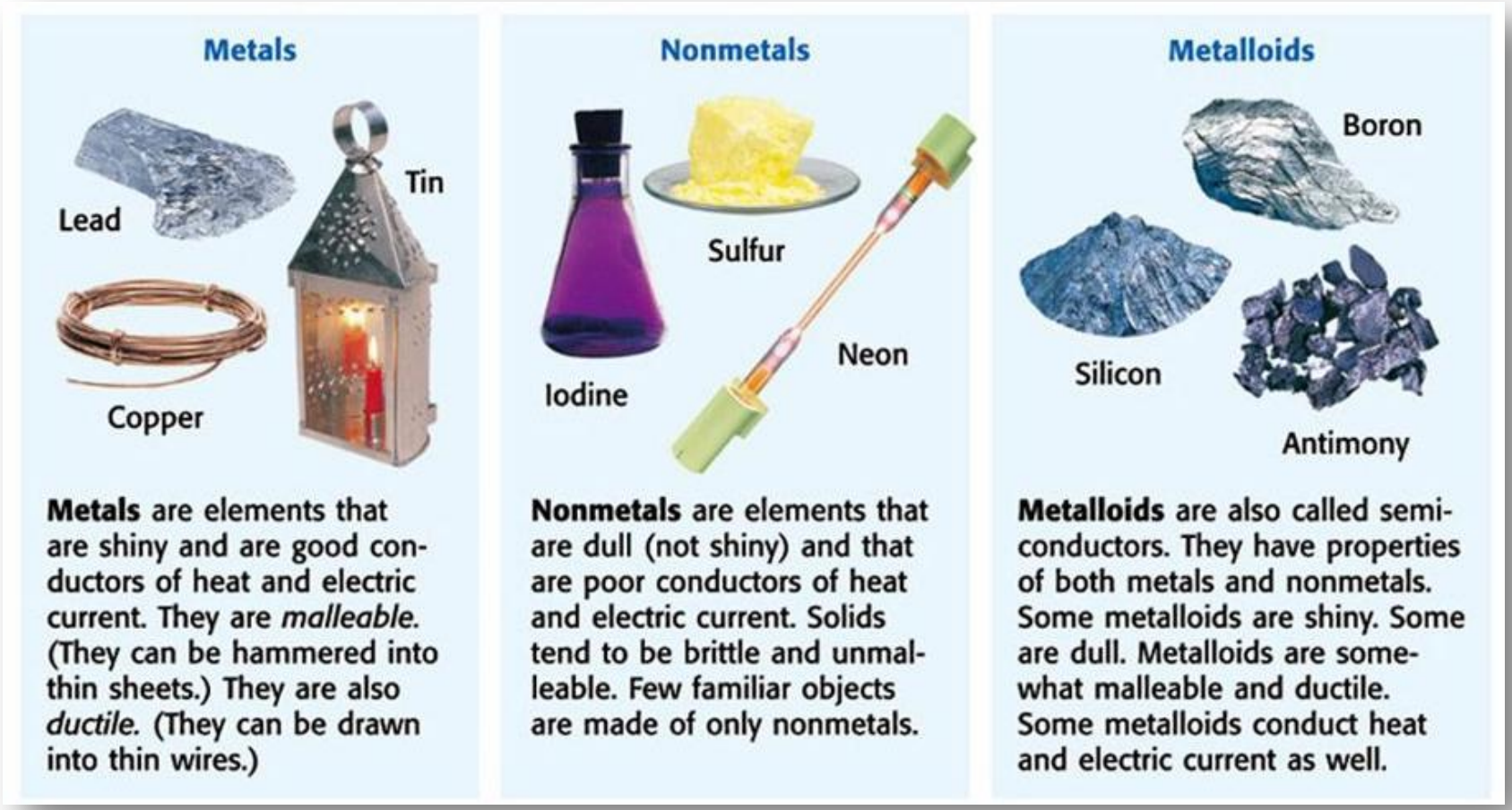
☐ SOLID ☐ LIQUID ☐ GAS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 H 1.008																	2 He 4.0026
3 Li 6.94	4 Be 9.0122											5 B 10.81	6 C 12.011	7 N 14.007	8 O 15.999	9 F 18.998	10 Ne 20.180
11 Na 22.990	12 Mg 24.305											13 Al 26.982	14 Si 28.085	15 P 30.974	16 S 32.06	17 Cl 35.45	18 Ar 39.948
19 K 39.098	20 Ca 40.078	21 Sc 44.956	22 Ti 47.867	23 V 50.942	24 Cr 51.996	25 Mn 54.938	26 Fe 55.845	27 Co 58.933	28 Ni 58.693	29 Cu 63.546	30 Zn 65.38	31 Ga 69.723	32 Ge 72.630	33 As 74.922	34 Se 78.97	35 Br 79.904	36 Kr 83.798
37 Rb 85.468	38 Sr 87.62	39 Y 88.906	40 Zr 91.224	41 Nb 92.906	42 Mo 95.95	43 Tc (98)	44 Ru 101.07	45 Rh 102.91	46 Pd 106.42	47 Ag 107.87	48 Cd 112.41	49 In 114.82	50 Sn 118.71	51 Sb 121.76	52 Te 127.60	53 I 126.90	54 Xe 131.29
55 Cs 132.91	56 Ba 137.33	57-71 *	72 Hf 178.49	73 Ta 180.95	74 W 183.84	75 Re 186.21	76 Os 190.23	77 Ir 192.22	78 Pt 195.08	79 Au 196.97	80 Hg 200.59	81 Tl 204.38	82 Pb 207.2	83 Bi 208.98	84 Po (209)	85 At (210)	86 Rn (222)
87 Fr (223)	88 Ra (226)	89-103 #	104 Rf (265)	105 Db (268)	106 Sg (271)	107 Bh (270)	108 Hs (277)	109 Mt (276)	110 Ds (281)	111 Rg (280)	112 Cn (285)	113 Nh (286)	114 Fl (289)	115 Mc (289)	116 Lv (293)	117 Ts (294)	118 Og (294)

* Lanthanide series	57 La 138.91	58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm (145)	62 Sm 150.36	63 Eu 151.96	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.05	71 Lu 174.97
# Actinide series	89 Ac (227)	90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np (237)	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (262)

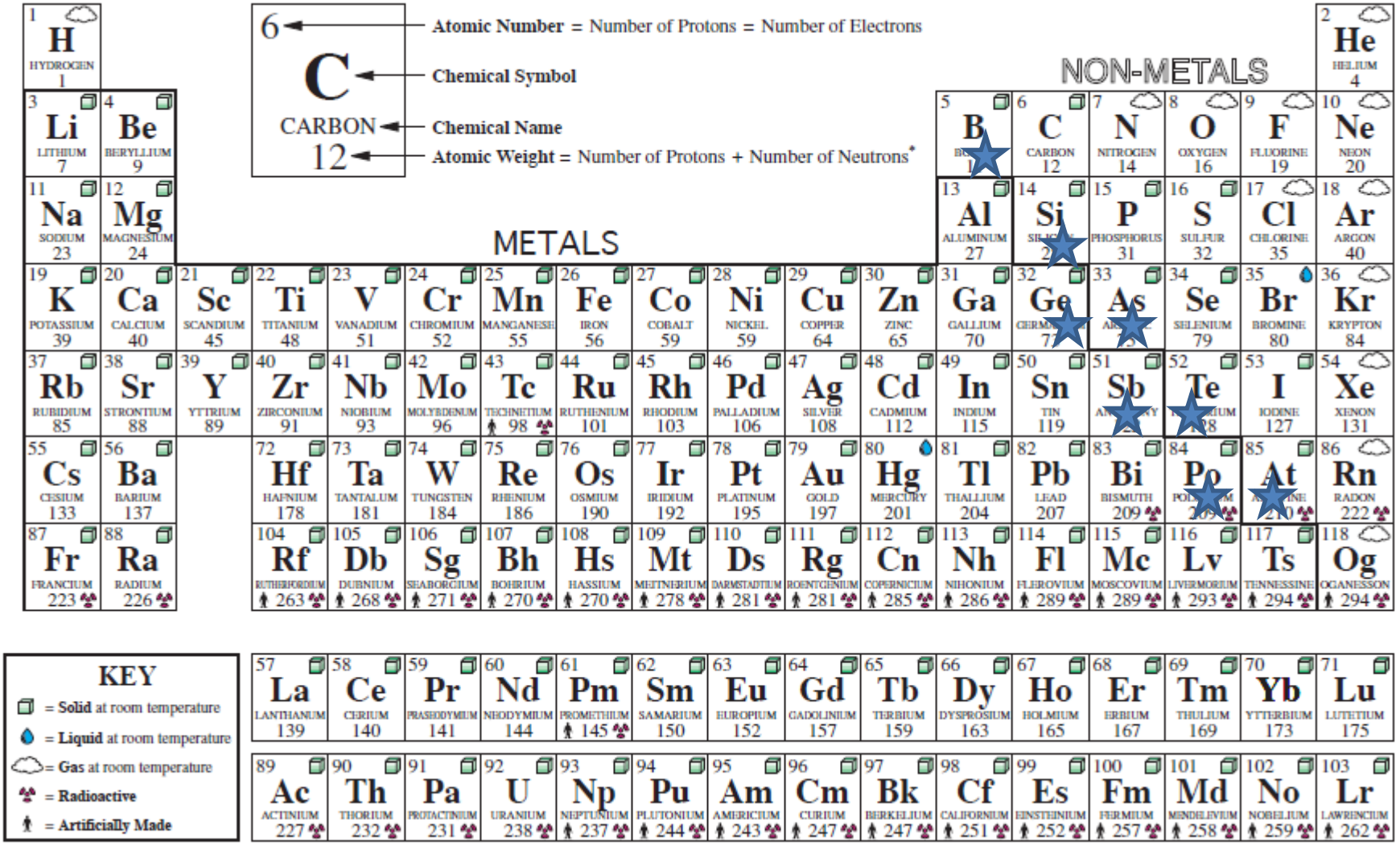
Follow each step to create your own coded table.

Part A: Let's classify the elements as METALS, NONMETALS, or METALLOIDS.

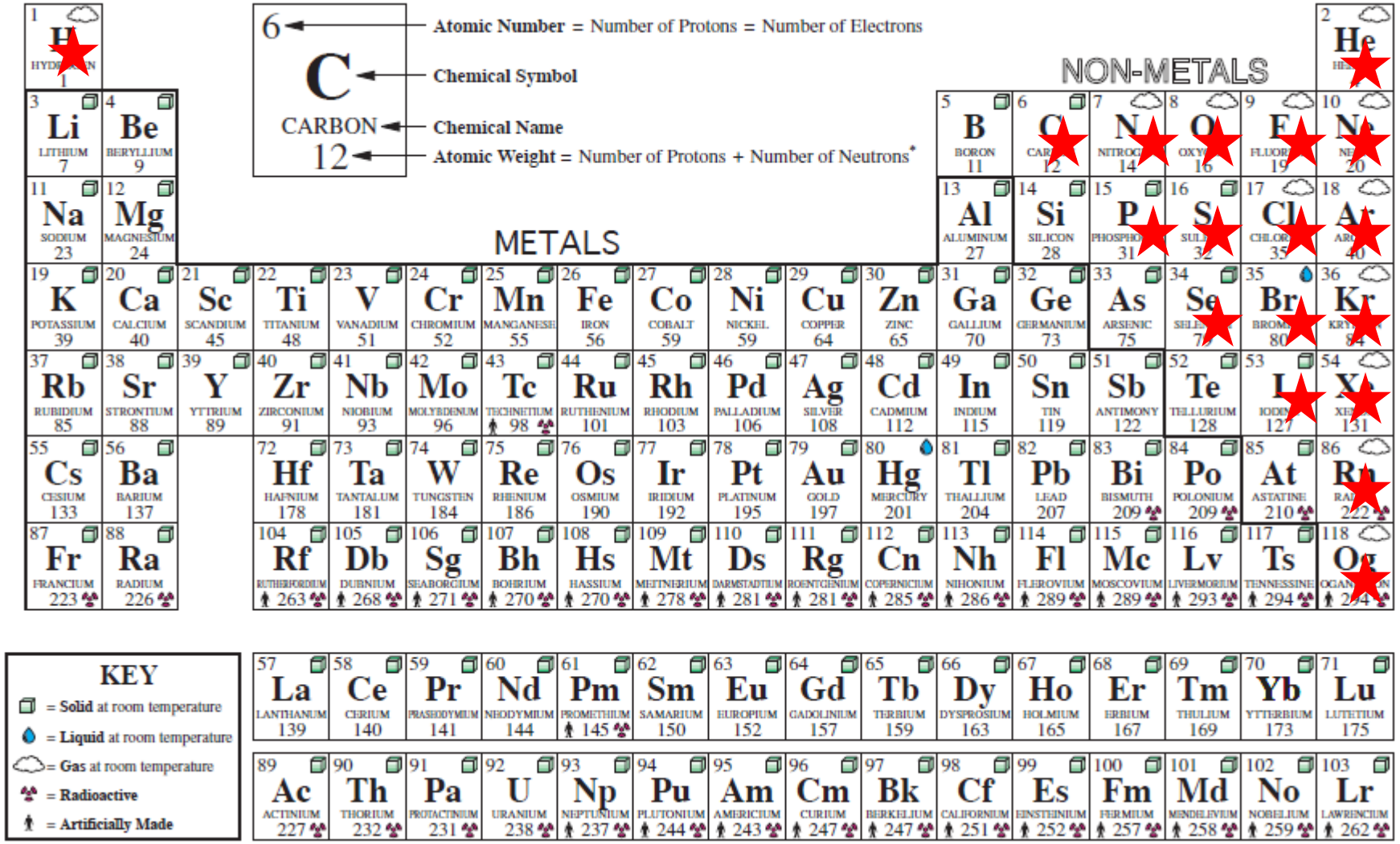


Source: http://images.slideplayer.com/26/8456696/slides/slide_9.jpg

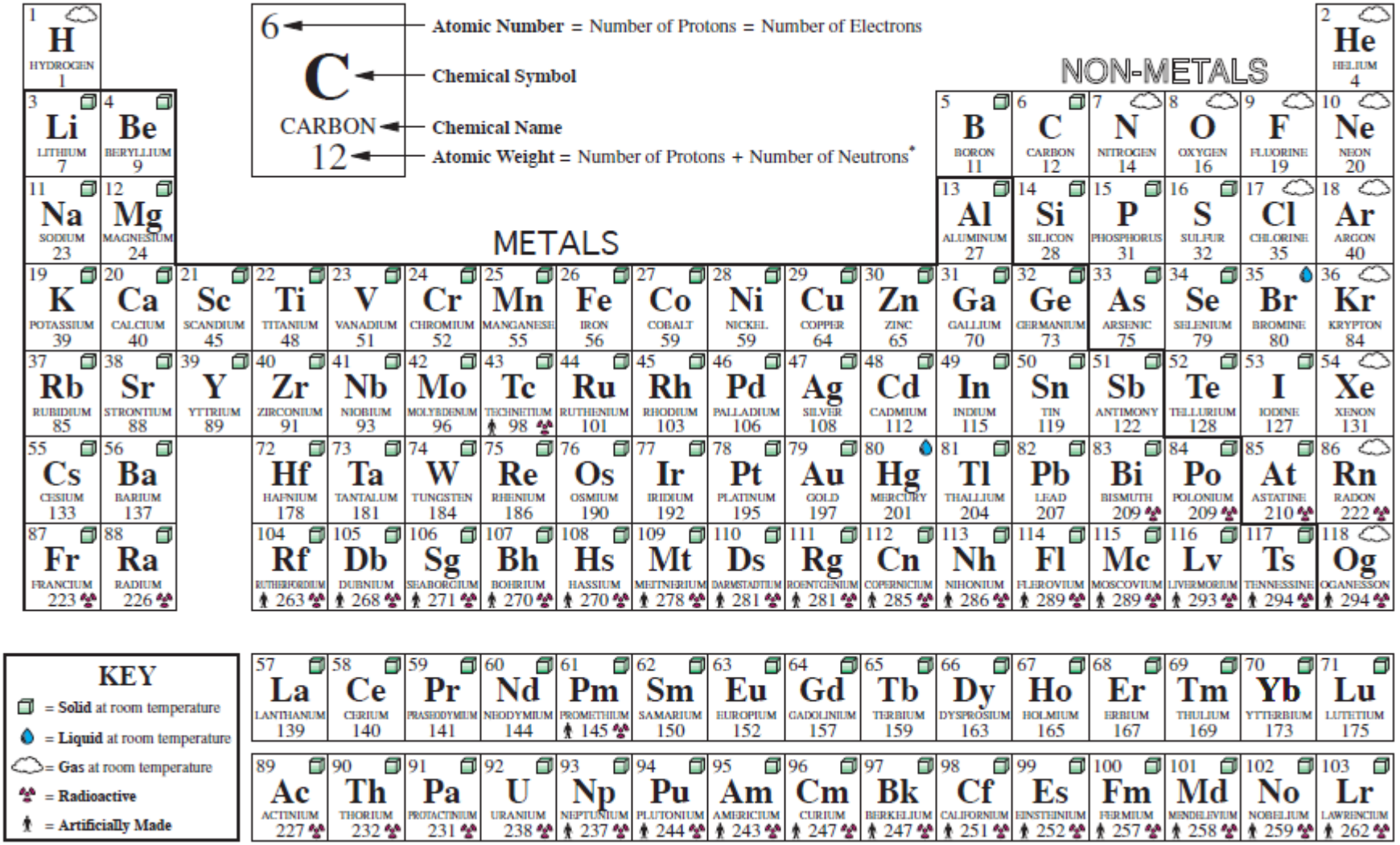
Shade the boxes BLUE for those with METALLOIDS.



Shade the boxes for NONMETALS in RED – don't forget hydrogen!

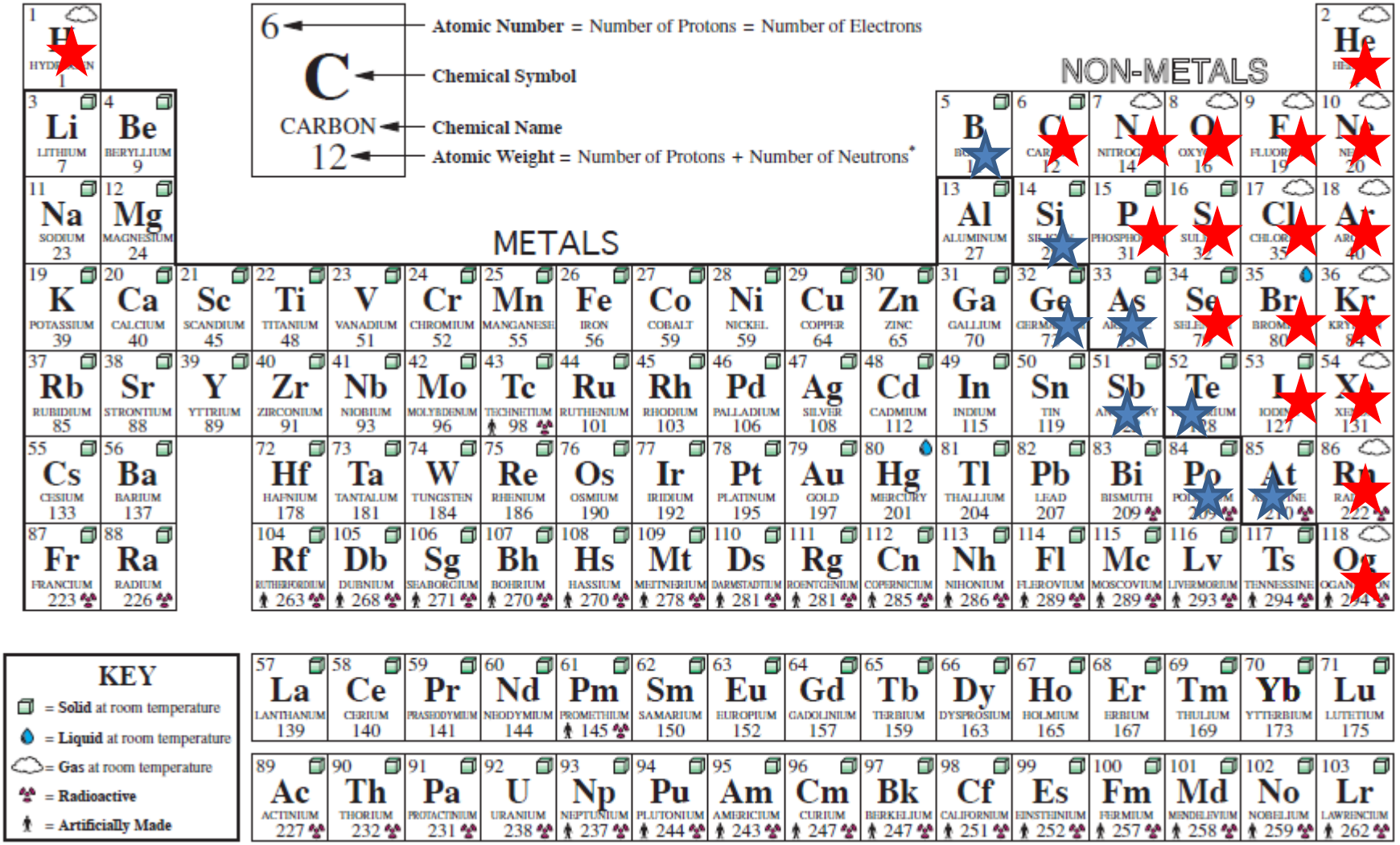


Shade the remaining boxes in GREEN to show the METALS – don't forget the bottom two rows!

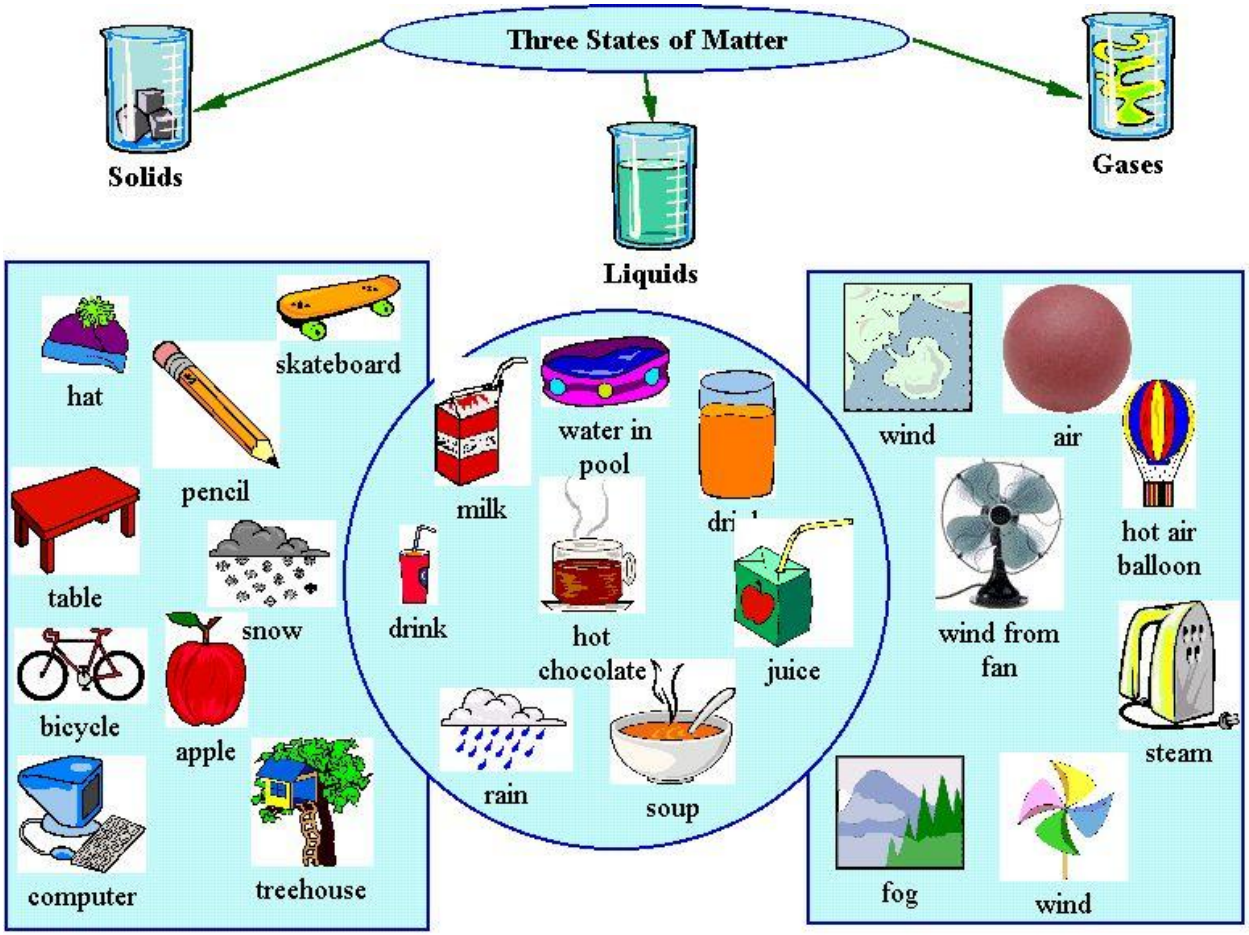


How many of each?

Nonmetals = ____ Metalloids = ____ Metals = ____

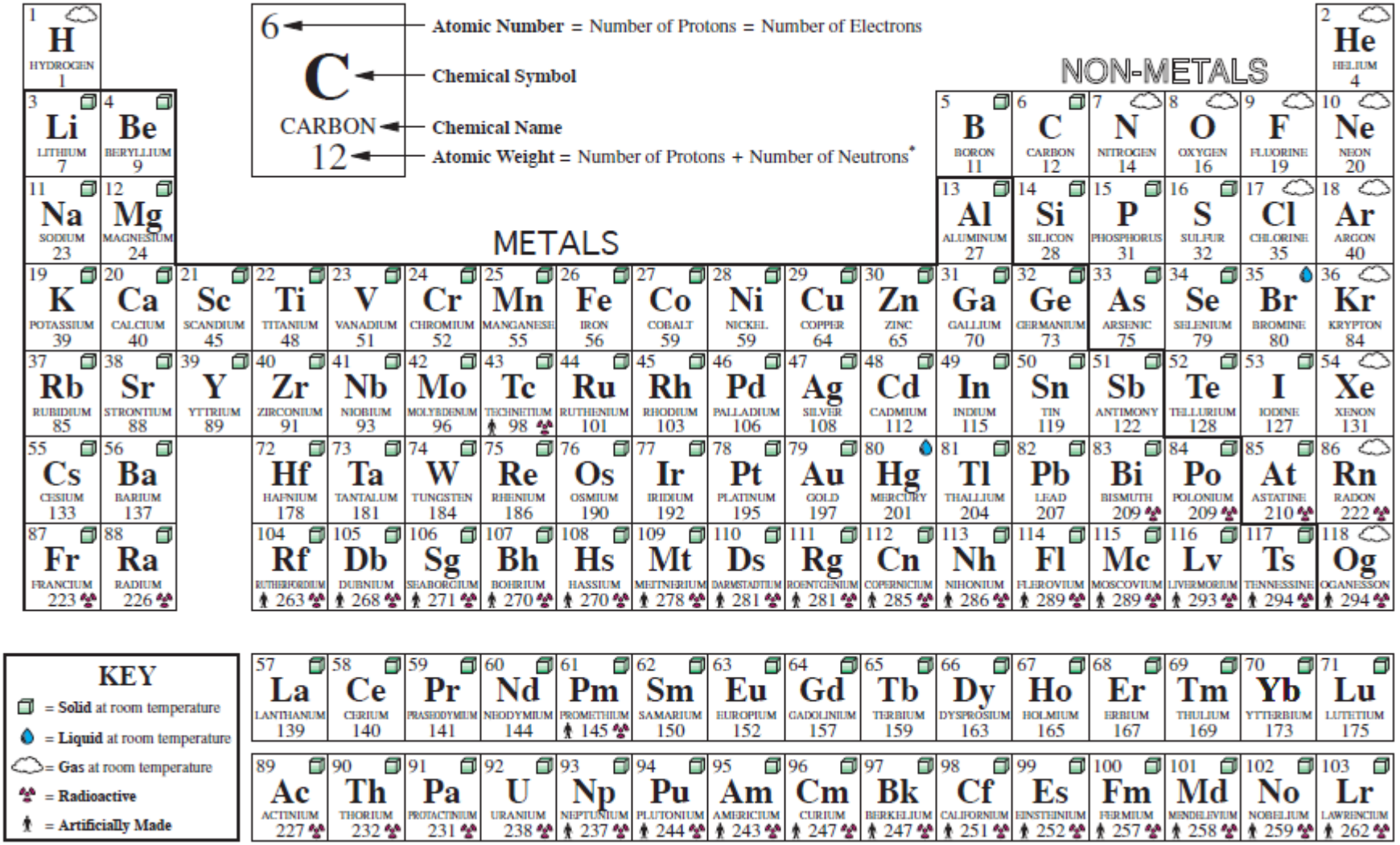


Part B: What's the phase?

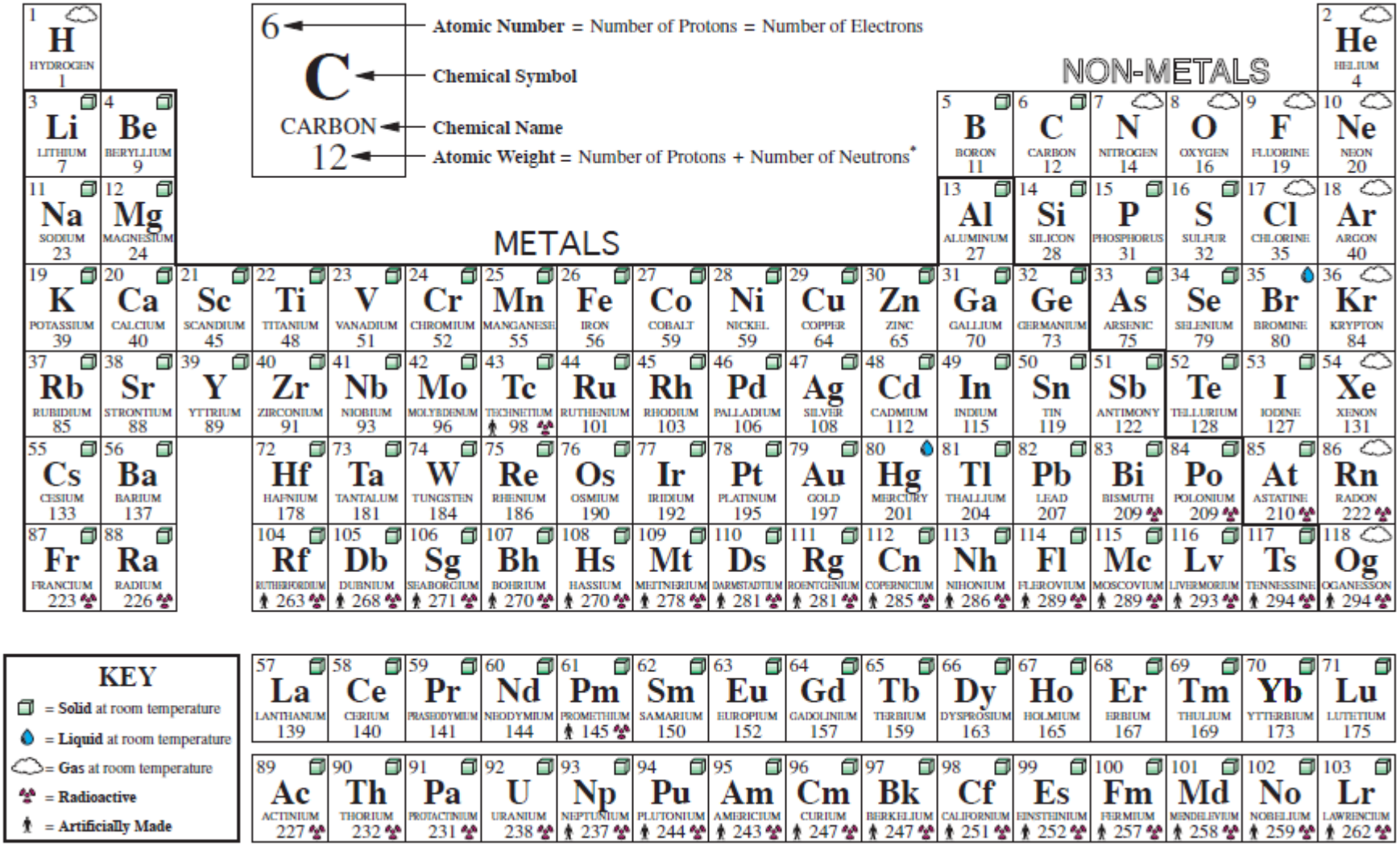


Source: http://www.learnnc.org/lp/media/lessons/Indianajennette2112003807/ThreeStatesofMatter.jpg

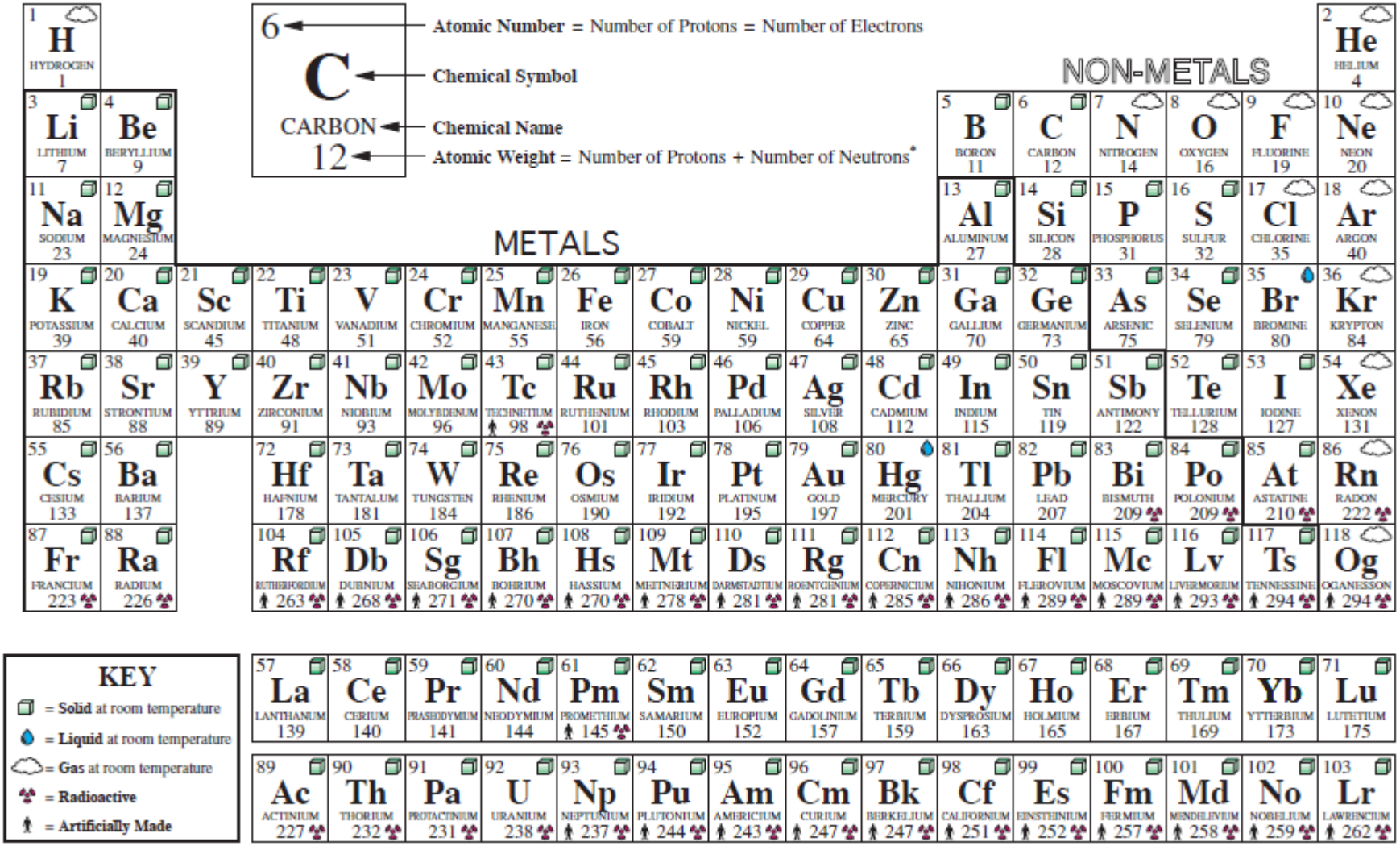
Use BLUE to color the WATER DROPLETS to show the elements that are LIQUID at <u>room temperature</u>.



Use BLACK to shade the CLOUDS to show the elements that are GASES at <u>room temperature</u>.

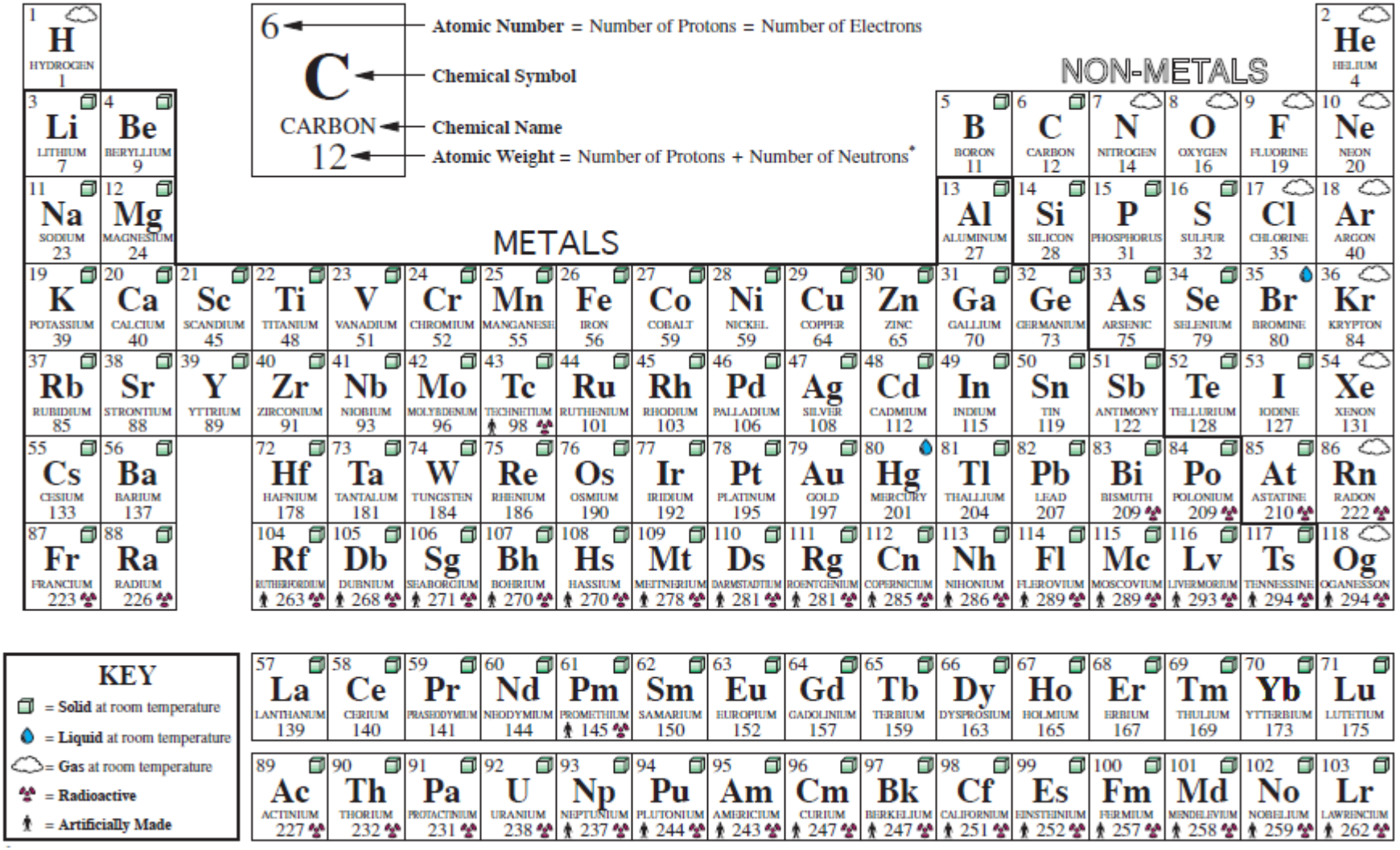


What about all the other elements? They are SOLIDS at <u>room temperature</u> and we will not mark those.



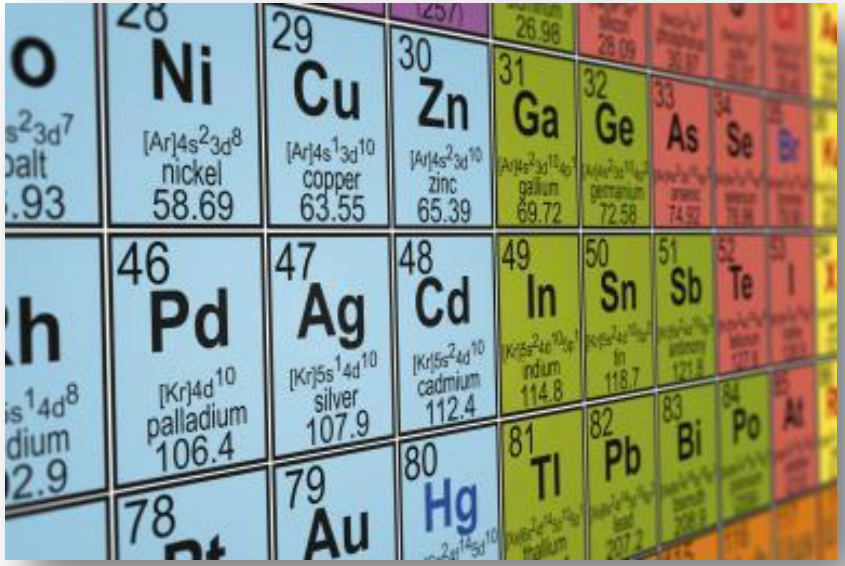
How many of each?

Liquids = ____ Gases = ____ Solids= _____



Part C: Element Families or Groups

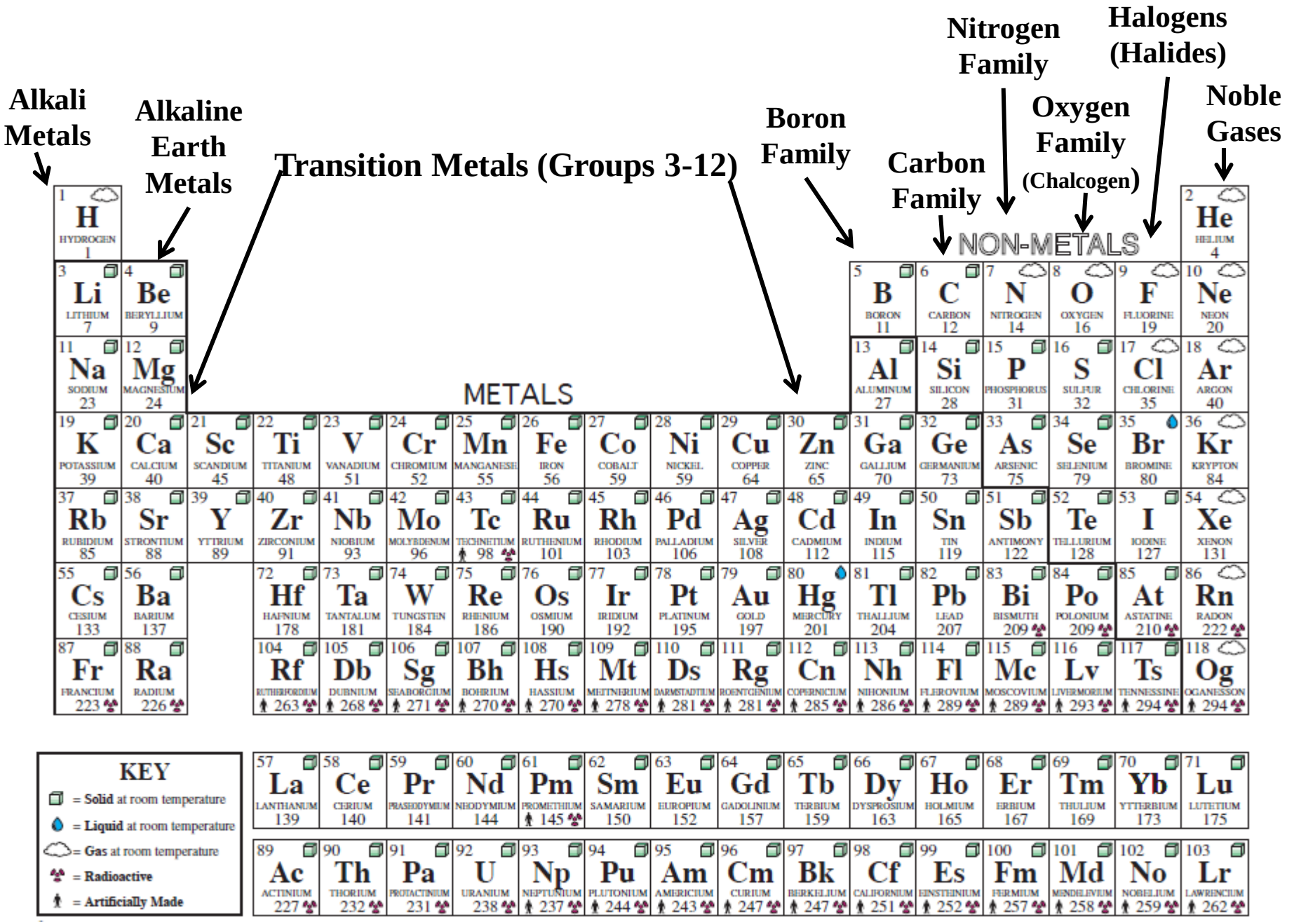
Elements are organized into families (also called groups) based on the number of <u>valence electrons</u> they have, which determines their <u>reactivity</u> and other properties.



Source: http://f.tqn.com/y/chemistry/1/W/J/V/2/186810031.jpg

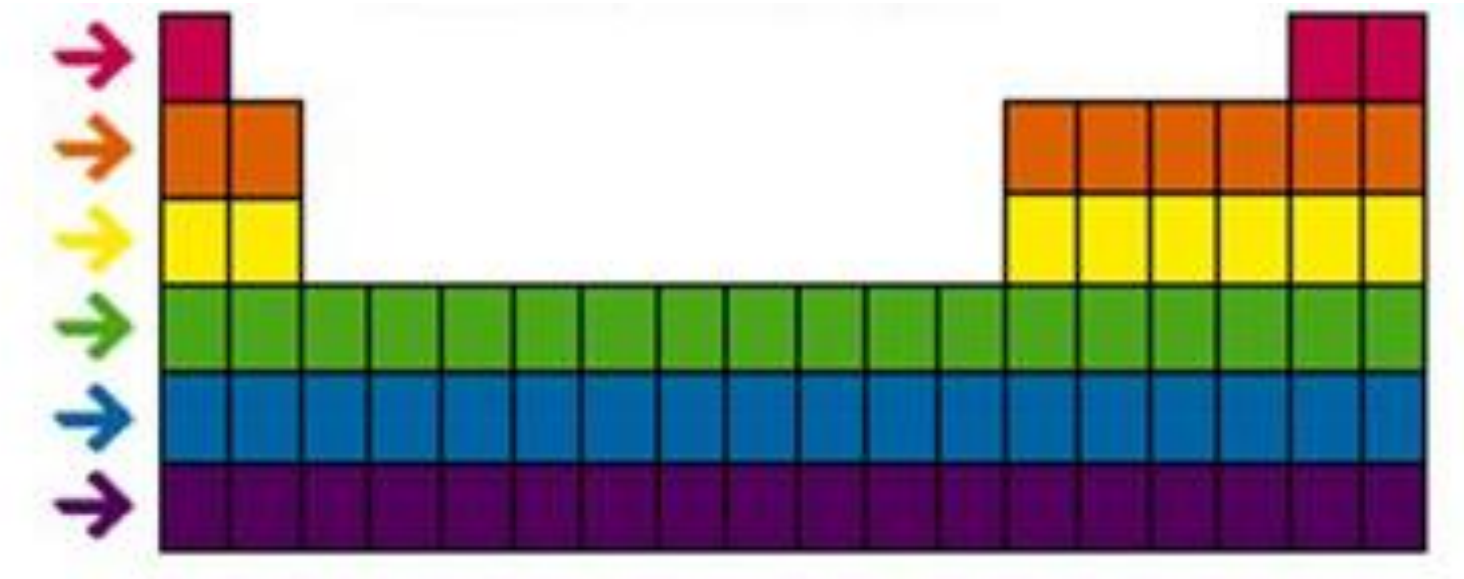
You will to use a <u>PEN</u> to label each column.

You will to use a PEN to label each column(s) with its family name.



Part D: Periods (Rows)

Each row in the table is called a <u>PERIOD</u>. All the elements in a row have the <u>same number of energy levels</u>.



Source: http://images.slideplayer.com/18/5702901/slides/slide_1.jpg

Label each ROW with the NUMBER of ENERGY LEVELS it has.