

# Periodic Table Review

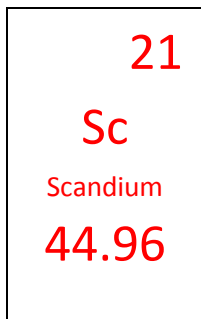
- How is the periodic table arranged? **By atomic number**
- What are the columns called? **Groups/Families** What are the rows called? **Periods**
- Elements in the same **group** or **family** have similar properties.
- Elements in the same **group** have the same number of valence electrons.
- Most elements on the periodic table are **solids (you could have also said metals)**
- What are the properties of metals? **lustrous (shiny), malleable (sheets), ductile (wires), good conductors**
- What are the properties of nonmetals? **not lustrous, not malleable, not ductile, insulators (do not conduct)**
- What are the properties of metalloids? **shiny but brittle, semi-conductors (poor conductors)**
- Which two elements are the only liquids at room temperature? **Mercury & Bromine** Which of these is a metal? **Mercury** Nonmetal? **Bromine**
- Why are Noble Gases non-reactive (don't want to bond with other elements)? **the outer energy level is full**
- Why are Alkali Metals the most reactive metals? **they only have 1 valence electron, so it is easy to "give away"**
- Why are the transition metals called the "typical metals" or "common metals" group? **this is the family with the most recognizable (common) metals (gold, silver, lead, etc.)**
- Why is hydrogen in the wrong spot on the periodic table? **it is in group 1 with metals and it is a non-metal** Why is it in the right spot? **it only has one valence electron**
- Label the location of the following families on the periodic table.
  - Halogens
  - Alkali Metals
  - Alkaline Earth Metals
  - Noble Gases
  - Transition Metals
- List how many valence electrons each of the atoms in these families have.
- Label the family whose elements are all radioactive.

**PERIODIC TABLE OF THE ELEMENTS**

1 H 1.008	2 He 4.003																																												
3 Li 6.941	4 Be 9.012											13 B 10.81	14 C 12.01	15 N 14.01	16 O 16.00	17 F 19.00	18 Ne 20.18																												
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95																												
19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.39	31 Ga 69.72	32 Ge 72.61	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80																												
37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc (98)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3																												
55 Cs 132.9	56 Ba 137.3	57 La 138.9	72 Hf 178.5	73 Ta 180.9	74 W 183.8	75 Re 186.2	76 Os 192.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209)	85 At (210)	86 Rn 222																												
87 Fr (223)	88 Ra (226)	89 Ac (227)	104 Rf (261)	105 Db (262)	106 Sg (263)	107 Bh (262)	108 Hs (265)	109 Mt (266)	110 Ds (269)	111 Rg (272)	112 Uub (277)		114 Uuq (???)		116 Uuh (???)		118 Uuo (???)																												
<table border="1" style="width: 100%; text-align: center;"> <tbody> <tr> <td>58 Ce 140.1</td> <td>59 Pr 140.9</td> <td>60 Nd 144.2</td> <td>61 Pm (145)</td> <td>62 Sm 150.4</td> <td>63 Eu 152.0</td> <td>64 Gd 157.3</td> <td>65 Tb 158.9</td> <td>66 Dy 162.5</td> <td>67 Ho 164.9</td> <td>68 Er 167.3</td> <td>69 Tm 168.9</td> <td>70 Yb 173.0</td> <td>71 Lu 175.0</td> </tr> <tr> <td>90 Th 232.0</td> <td>91 Pa 231.0</td> <td>92 U 238.0</td> <td>93 Np (237)</td> <td>94 Pu (244)</td> <td>95 Am (243)</td> <td>96 Cm (247)</td> <td>97 Bk (247)</td> <td>98 Cf (251)</td> <td>99 Es (252)</td> <td>100 Fm (257)</td> <td>101 Md (258)</td> <td>102 No (259)</td> <td>103 Lr (262)</td> </tr> </tbody> </table>																		58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (145)	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0	71 Lu 175.0	90 Th 232.0	91 Pa 231.0	92 U 238.0	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)
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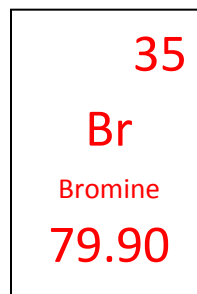
17. Draw an element box for the elements of the following. Then calculate how many protons, neutrons, and electrons are in each of their atoms.

a. Element in row 4 column 3



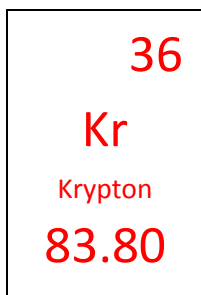
- a.  $p^+ = 21$
- b.  $e^- = 21$
- c.  $n^0 = 24$

d. Element in row 4 column 17



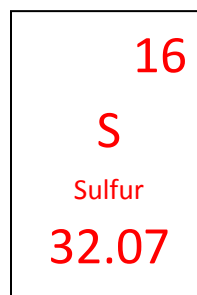
- $p^+ = 35$
- $e^- = 35$
- $n^0 = 45$

b. element with atomic # 36



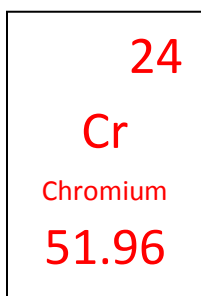
- a.  $p^+ = 36$
- b.  $e^- = 36$
- c.  $n^0 = 48$

e. element with atomic #16



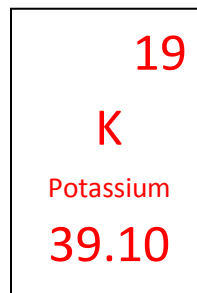
- $p^+ = 16$
- $e^- = 16$
- $n^0 = 16$

c. element with symbol Cr



- $p^+ = 24$
- $e^- = 24$
- $n^0 = 28$

f. element with symbol K



- $p^+ = 19$
- $e^- = 19$
- $n^0 = 20$