

Worksheet 2

1 H 1.008																2 He 4.003	
3 Li 6.941	4 Be 9.012											5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 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 (97.9)	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.411	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 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.59	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po (209.0)	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	111	112		114		116		118

Lanthanide * Series	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm (144.91)	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 173.04	71 Lu 175.0
Actinide ~ Series	90 Th 232.0	91 Pa 231	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 (260)

1. Draw a box around the noble gas group on the periodic table
2. Circle the metalloids on the periodic table
3. Where are the metallic elements located on the periodic table?
4. Where are the non-metallic elements located on the periodic table?
5. Is hydrogen a metal or a non-metal
6. Using the periodic table, fill out the related information

Elements	atomic mass	atomic number	number of neutrons	number of electrons
⁴ He				
		7	8	
			64	56
	186		111	

7. Gallium is 60.3% ^{69}Ga which has an atomic mass of 68.926 amu and 39.7% ^{71}Ga which has an atomic mass of 70.925 amu. Calculate the average atomic mass of gallium.

8. Given the frequency of a photon (ν), what is the photon's wavelength? (Use symbols)

9. In a few words describe the photoelectric effect.

10. The energy of a photon is 5.87×10^{-20} J. What is its wavelength (in nanometers)?

11. What is the wavelength, in meters, of an electromagnetic wave whose frequency is 4.74×10^7 Hz?