## Preview of the Periodic Table

Elements are placed in groups based on repeating properties. Read text book pages 118, 158-160, 161-163.

1.) Color in metals, non-metals, metalloids, & noble gases, each with a different color. Be sure to include a key on the side!

																	_	
1																	2	
Н																	Не	
Hydrogen 1.00794		_															Helium 4.003	Metals
3	4	]										5	6	7	8	9	10	Ivicials
Li	Be											В	С	N	0	F	Ne	
Lithium 6,941	Beryllium 9.012182											Boron 10.811	Carbon 12,0107	Nitrogen 14.00674	Oxygen 15,9994	Fluorine 18,9984032	Neon 20,1797	Non-metals
11	12	1										13	14	15	16	17	18	1 Voll-Inctais
Na	Mg											Al	Si	Р	S	Cl	Ar	
Sodium 22,989770	Magnesium 24.3050											Aluminum 26,981538	Silicon 28.0855	Phosphorus 30,973761	Sulfur 32.066	Chlorine 35.4527	Argon 39,948	Metalloids
19	24.3030	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	iviounionus
К	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
Potassium 39.0983	Calcium 40.078	Scandium 44,955910	Titanium 47.867	Vanadium 50.9415	Chromium 51,9961	Manganese 54,938049	Iron 55.845	Cobalt 58,933200	Nickel 58,6934	Copper 63.546	Zinc 65.39	Gallium 69,723	Germanium 72.61	Arsenic 74,92160	Selenium 78,96	Bromine 79,904	Krypton 83.80	Noble Gases
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	
Rb	Sr	Y	Zr	Nb	Мо	Тс	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Те	T	Xe	
Rubidium 85.4678	Strontium 87.62	Yttrium 88.90585	Zirconium 91,224	Niobium 92.90638	Molybdenum 95.94	Technetium (98)	Ruthenium 101.07	Rhodium 102.90550	Palladium 106.42	Silver 107.8682	Cadmium 112.411	Indium 114.818	Tin 118,710	Antimony 121,760	Tellurium 127.60	Iodine 126,90447	Xenon 131.29	
55	56	57	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	
Cs	Ba	La	Hf	Та	W	Re	Os	Ir	Pt	Au	Hg	TI	Pb	Bi	Po	At	Rn	
Cesium	Barium 137.327	Lanthanum	Hafnium 178.49	Tantalum	Tungsten	Rhenium	Osmium	Iridium	Platinum	Gold 196,96655	Mercury	Thallium	Lead 207.2	Bismuth	Polonium	Astatine	Radon	
132.90545 87	88	138.9055 89	1/8.49	180.9479 105	183.84 106	186.207 107	190.23 108	192.217 109	195.078 110	196.96655	200.59	204.3833	114	208.98038	(209)	(210)	(222)	
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	110		112	115						
Francium	Radium	Actinium	Rutherfordium	Dubnium	Seaborgium	Bohrium	Hassium	Meitnerium		(0.00)								
(223)	(226)	(227)	(261)	(262)	(263)	(262)	(265)	(266)	(269)	(272)	(277)							
				58	59	60	61	62	63	64	65	66	67	68	69	70	71	
				Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dv	Но	Er	Tm	Yb	Lu	
				Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium	Lutetium	
				140.116 90	140.90765 91	144.24 92	(145) 93	150.36 94	151.964 95	157.25 96	158.92534 97	162.50 98	164.93032 99	167.26 100	168.93421 101	173.04 102	174.967 103	
				Th	Pa	U U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
				Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium	Lawrencium	
				232.0381	231.03588	238.0289	(237)	(244)	(243)	(247)	(247)	(251)	(252)	(257)	(258)	(259)	(262)	

2.) Color the following special groups of elements, each with a different color: Alkali Metals, Alkaline Earth Metals, Transition Metals, Halogens, & Noble Gases. Be sure to include a key on the side!

1 H Hydrogen 1,00794																	2 <b>He</b> Helium 4.003	
3 Li 6.941	4 Be Beryllium 9,012182											5 B 10.811	6 C Carbon 12.0107	7 N Nitrogen 14.00674	8 0 0xygen 15,9994	9 F Fluorine 18.9984032	10 Ne 20,1797	Alkali Metals
11 Na <sup>Sodium</sup> 22.989770	12 Mg Magnesium 24,3050											13 Al Aluminum 26.981538	14 Si <sup>Silicon</sup> 28.0855	15 P Phosphorus 30.973761	16 <b>S</b> <sup>Sulfur</sup> 32.066	17 Cl 35.4527	18 Ar <sup>Argon</sup> 39.948	Alkaline Earth Metals
19 K Potassium 39.0983	20 Ca Calcium 40.078	21 Sc Scandium 44.955910	22 Ti Titanium 47.867	23 V Vanadium 50.9415	24 Cr <sup>Chromium</sup> 51.9961	25 Mn Manganese 54.938049	26 Fe <sup>Iron</sup> 55.845	27 Co <sub>Cobalt</sub> 58.933200	28 <b>Ni</b> <sup>Nickel</sup> 58.6934	29 Cu <sub>Copper</sub> 63.546	30 Zn <sup>Zine</sup> 65.39	31 Gallium 69.723	32 Ge Germanium 72.61	33 As Arsenic 74.92160	34 Se <sup>Selenium</sup> 78.96	35 Br <sup>Bromine</sup> 79.904	36 Kr Krypton 83.80	Transition
37 <b>Rb</b> Rubidium 85.4678	38 Sr Strontium 87.62	39 Y <sup>Yttrium</sup> 88,90585	40 Zr <sup>Zirconium</sup> 91.224	41 Nb Niobium 92.90638	42 Mo Molybdenum 95.94	43 Tc Technetium (98)	44 Ru Ruthenium 101.07	45 Rh Rhodium 102.90550	46 Pd Palladium 106,42	47 Ag <sup>Silver</sup> 107,8682	48 Cd Cadmium 112.411	49 In Indium 114.818	50 <b>Sn</b> <sup>Tin</sup> 118.710	51 Sb Antimony 121.760	52 Te Tellurium 127.60	53 I 126.90447	54 Xe <sup>Xenon</sup> 131.29	Metals
55 Cs Cesium 132,90545	56 Ba Barium 137,327	57 La Lanthanum 138,9055	72 Hf Hafnium 178,49	73 Ta Tantalum 180,9479	74 W Tungsten 183,84	75 Re Rhenium 186,207	76 Os <sup>Osmium</sup> 190,23	77 Ir <sup>Iridium</sup> 192.217	78 Pt 195.078	79 Au <sup>Gold</sup> 196,96655	80 Hg Mercury 200,59	81 Tl <sup>Thallium</sup> 204,3833	82 Pb Lead 207.2	83 Bi <sup>Bismuth</sup> 208,98038	84 Po Potonium (209)	85 At Astatine (210)	86 Rn Radon (222)	Halogens
87 Fr Francium (223)	88 <b>Ra</b> (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 (266)	(269)	(272)	(277)	113	114	200.70030	(207)	(210)	(222)	Noble Gases
(223)	(220)	(227)	(201)	58 Ce	59 Pr	60 Nd	61 <b>Pm</b>	62 Sm	63 Eu	64 Gd	65 <b>Tb</b>	66 Dy	67 <b>Ho</b>	68 Er	69 Tm	70 <b>Yb</b>	71 Lu	
				Cerium 140.116 90	Praseodymium 140.90765 91	Neodymium 144.24 92	Promethium (145) 93	Samarium 150.36 94	Europium 151.964 95	Gadolinium 157.25 96	Terbium 158.92534 97	Dysprosium 162.50 98	Holmium 164.93032 99	Erbium 167.26 100	Thulium 168.93421 101	Ytterbium 173.04 102	Lutetium 174.967 103	

Bk

(247)

Cm

(247)

Am Americium (243) Cf

Es

Fm

Md

(258)

No

(259)

Lr

(262)

Th

32 038

Pa

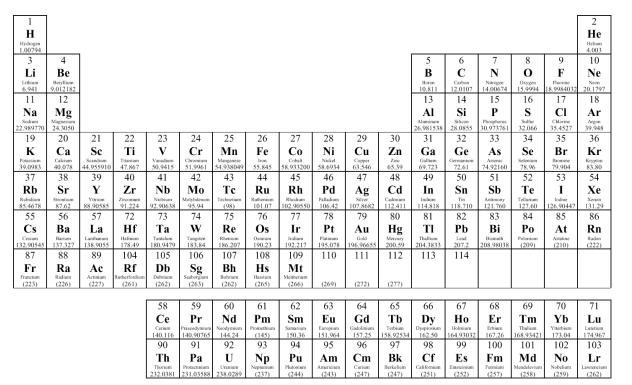
31.035

U

Np

Pu

(244)



## 3.) Color in the seven diatomic elements. (Hint: "HOFBrINCI"!)

Diatomic Elements

## 4.) Put a blue border around the 2 liquid elements at STP. Put a red border around the 11 gaseous elements at STP.

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $																			
Image: 1000000 Image: 10000000 Image: 1000000000000000000000000000000000000	1																		
3 4 5 6 7 8 9 10   Buttom 90/2132 11 12 11 12 11 12 10 11 15 16 17 18 Nee Ne	Hydrogen																	Helium	
$ \frac{\mathbf{Li}_{1,0,0,1}}{\mathbf{R}_{1,0,0,1}} \frac{\mathbf{R}_{1,0,0,1}}{\mathbf{R}_{1,0,0,1,1}} \frac{\mathbf{R}_{1,0,0,1,1}}{\mathbf{R}_{1,0,0,1,1}} \frac{\mathbf{R}_{1,0,0,1,1}}{\mathbf{R}_{1,0,0,1,$		4	1										5	6	7	8	0		Solids
Light of the string Normal															· ·		-		
11 12 13 14 13 14 13 10 17 16 An An Sinten	Lithium	Beryllium											Boron	Carbon	Nitrogen	Oxygen	Fluorine	Neon	Liquida
Solution 22.989770   Magnetion 23.90578   Solution 22.989770   Solution 30.973761   Solutio			1																Liquids
Solution 22.989770   Magnetion 23.90578   Solution 22.989770   Solution 30.973761   Solutio	Na	Mg											Al	Si	Р	S	Cl	Ar	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Magnesium																	Gases
Examinant   Cateriant   Scondum   Human   Comminent   Managenese   Tom   Column   Arresice   Selentian   Bremine   Rypon     370,0083   40,078   44,955910   47.867   50.9415   51.9910   55.845   58.933200   58.6934   63.546   65.396   69.723   72.61   74.92160   78.96   79.904   83.80     37   38   39   40   41   42   43   44   45   46   47   48   49   50   51   52   53   54     Rb   Sr c2   88.90585   91.224   75   76   77   78   79   80   81   82   83   84   85   86     Cs   Ba   La   Hf   Ta   W   Re   OS   Ir   Pt   Au   Hg   TI   Pb   Bit   Po   At   Rn     132.90545   137.327   138.905   106   107   108   109	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	Gubeb
39.0983 40.078 44.955910 47.867 50.9415 51.9961 54.938049 55.845 58.933200 58.6934 63.546 65.39 69.723 72.61 74.92160 78.96 79.904 83.80   37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54   Rbd Strontium Strontium Nob Nbb Mbo Tele Ru Rb Pdd Agg Cd In Sn																			
Rb   Sr   Y   Zr   Nb   Mo   Tc   Ru   Rh   Pd   Agg   Cd   In   Sn   Sb   Te   I   Xee     85/678   87.62   88.90585   7   7.2   7.3   7.4   7.5   7.6   7.7   7.8   7.9   8.0   81   82   8.3   84   85   86     Cs   Ba   La   Hf   Ta   W   Re   Os   Ir   Pt   Au   Hg   TI   Pb   Bit   Po   At   Rn     132.05545   137.327   138.095   178.4   106.107   108.8   109   110   111   112   113   114   Astatine   Radium   Astatine   Radium   Astatine   Radium   (209)   (210)   (220)   (210)   (220)   (210)   (220)   (210)   (220)   (210)   (220)   (210)   (220)   (210)   (220)   (210)   (220)   (210)   (220)<																		83.80	
Basidium   Strontum   Vitrum   Zuccoulum   Noblium   Modeman   Technelium   Rubotium   Rubotium   Siber   Calmium   Induum   Tin   Antennos   Tellurium   Iodane   Nonan     55   56   57   72   73   74   75   76   77   78   79   80   81   82   83   84   85   86     Cs   Ba   La   Hf   Ta   W   Re   OS   Ir   Pt   Au   Hg   TI   Pb   Bi   Po   Att   Rn     132.0954   137.327   138.095   178.44   100   110   111   112   113   114   Foldium   Astatine   Radon   Radon   208.98038   209.9   (210)   (220)   (220)   (210)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)					41	42		44		46	47	-	49		51		53	54	
85.4678   87.62   88.90585   91.224   92.90638   95.94   (98)   101.07   102.90550   106.42   107.8682   112.411   114.818   118.710   121.760   127.60   126.90447   131.29     55   56   57   72   73   74   75   76   77   78   79   80   81   82   83   84   85   86     Csim   Barium   Laa   Hfif   Taa   W   Re   Os   N   Pt   Au   Hg   TI   Pb   Bi   Pc   At   Rn     132.90545   137.327   138.9055   178.49   183.84   106   107   108   109   110   111   112   113   204.3833   207.2   208.98038   (209)   (210)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221)   (221) <td></td> <td></td> <td>-</td> <td></td> <td>10.10</td> <td></td> <td>-</td> <td></td> <td></td>			-												10.10		-		
Cs   Ba   La   Hf   Ta   W   Re   Os   Ir   Pt   Au   Hg   TI   Pb   Bi   Po   At   Ra     132.90545   137.327   138.0055   104   105   106   107   108   109   110   111   112   113   114   Image: State Sta					Niobium 92.90638	Molybdenum 95.94	(98)				Silver 107.8682					Tellurium 127.60			
Excusion   Bartum   Landhaume   Harfung   Tanadam			57								79								
132.90545 137.327 138.9055 178.49 180.9479 183.84 186.207 190.23 192.217 195.078 196.96655 200.59 204.3833 207.2 208.98038 (209) (210) (222)   87 88 89 104 105 106 107 108 109 110 111 112 113 114												Hg		- 10					
Fr   Ra   Acc   Rf   Db   Sg   Bh   Hs   Mt   Lasian   (269)   (271)   (271)   (261)   (262)   (263)   (263)   (263)   (263)   (269)   (272)   (271)   (263)   (263)   (263)   (263)   (263)   (269)   (272)   (271)   (	132.90545	137.327	138.9055	178.49	180.9479	183.84	186.207	190.23	192.217	195.078	196.96655	200.59	204.3833	207.2					
Francium   Radium   Actinium   Ruherfordium   Dubnium   Seaborgim   Bohrium   Hassium   Menterium   (269)   (271)   (277)   (261)   (262)   (263)   (262)   (263)   (264)   (269)   (272)   (277)										110	111	112	113	114					
(223) (226) (227) (261) (262) (263) (266) (269) (272) (277)   58 59 60 61 62 63 64 65 66 67 68 69 70 71						Sg													
										(269)	(272)	(277)							
					50	50	60	61	62	62	64	65	66	67	69	60	70	71	I
					Ce	Pr	Nd	$\mathbf{Pm}$	Sm	Eu	Gd	05 Tb		Ho	Er	Tm	Yb		
Cerium Praseodymium Neodymium Promethium Samarium Europium Gadolinium Terrbium Dysposium Holmium Erbium Thulium Ytterbium Luterium					Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium	Lutetium	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$																			
						71	92	,5		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					100	101	102	105	
Thorium Protactinium Uranium Neptunium Phutonium Americum Curium Berkelium Californium Einsteinium Fermium Mendelevium Nobelium Lawrencium 232,0381 231,03588 238,0289 (237) (244) (243) (247) (247) (251) (252) (258) (259) (262)					Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	