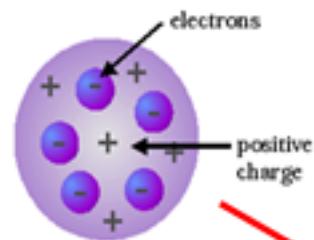


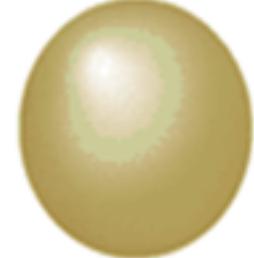
3 Parts of the Atom:

Subatomic Particle	Relative Mass	Charge	Where Found
Neutron	1	0	In nucleus
Electron	0	-1	In electron cloud
Proton	1	+1	In Nucleus

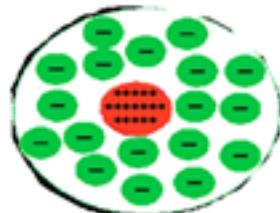
Connect the Scientist with their Atomic Model:



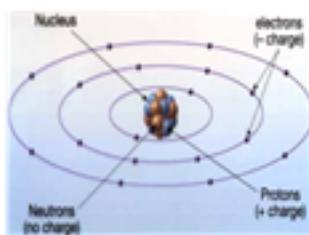
Rutherford



Thomson



Bohr



Dalton

Match the Scientist with their discovery:

- Thomson • Nucleus
- Chadwick • Planetary Model
- Bohr • Electron
- Rutherford • Neutron

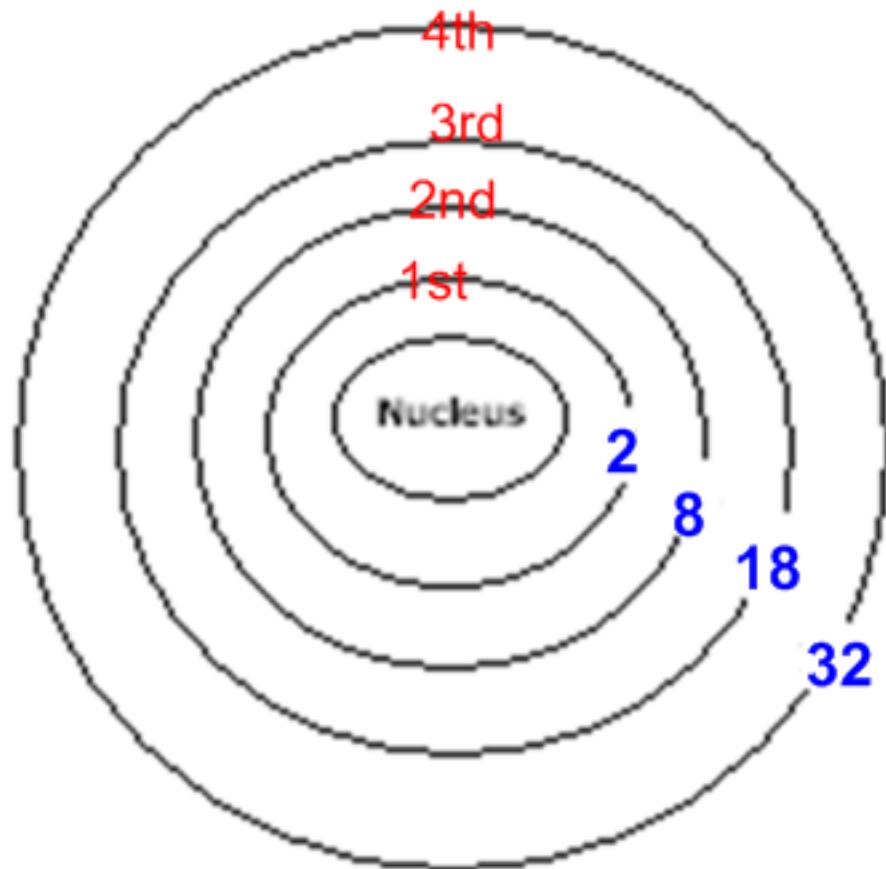
Match the following terms with their correct definition:

- Atomic Number
 - Sum of the protons and neutrons
- Mass Number
 - Atoms of same element with different # of electrons.
- Isotope
 - # of protons in an atom
- Ion
 - Atoms of same element with different # of neutrons.

Complete the Chart:

<u>Element</u>	<u>Atomic #</u>	<u>Mass #</u>	<u># of Protons</u>	<u># of Neutrons</u>	<u># of Electrons</u>
Phosphorus	15	31	15	16	15
Carbon	6	13	6	7	6
Helium	2	4	2	2	2
Bromine	35	80	35	45	35

How many electrons can each energy level hold?
(Drag and Drop the Correct #'s)



- 20
- 1
- 24
- 4
- 14
- 10
- 16
- 6

Draw a neutral Carbon atom:

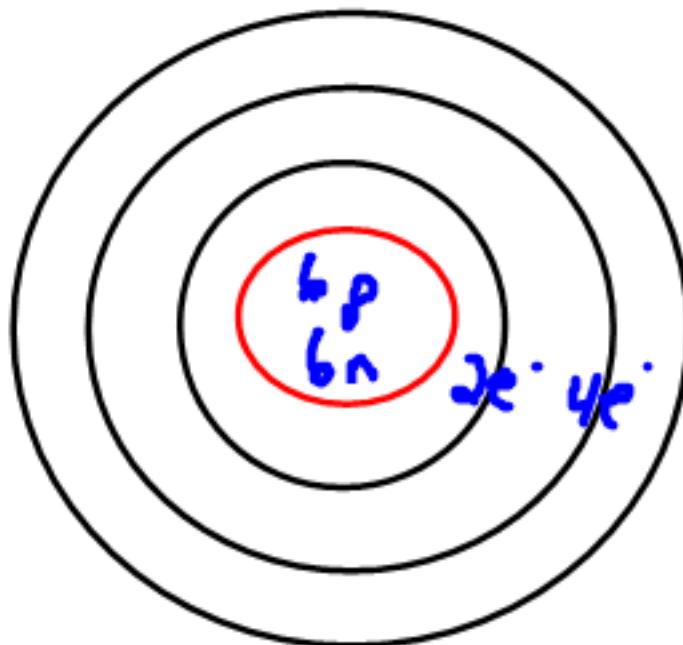
Atomic # = 6

Mass # = 12

#p = 6

#e = 6

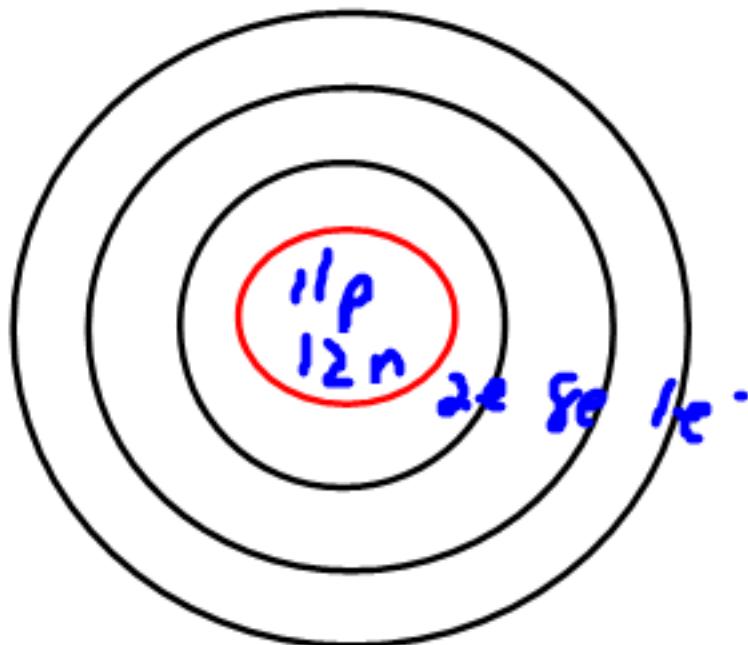
#n = 6



Draw a neutral Sodium atom:

Atomic # = 11
Mass # = 23

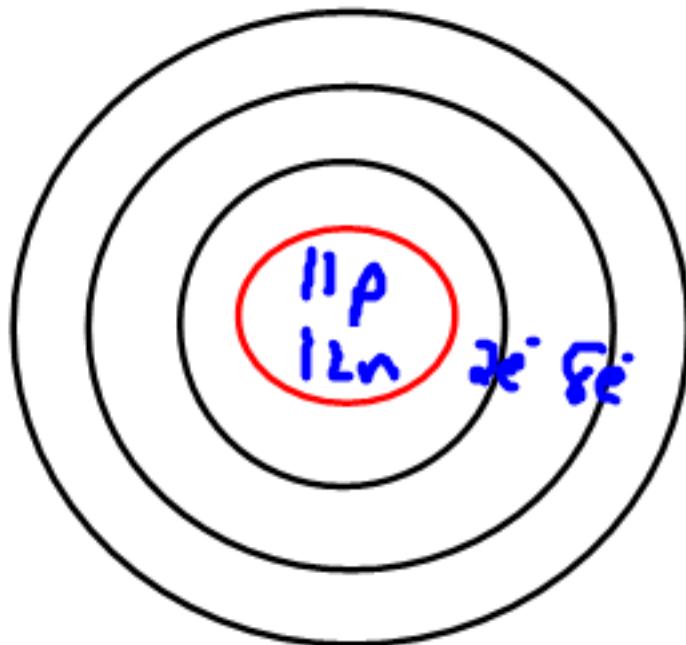
#p = 11
#e = 11
#n = 12



Draw a positive sodium ion(Na^{+1}):

Atomic # = 11
Mass # = 23

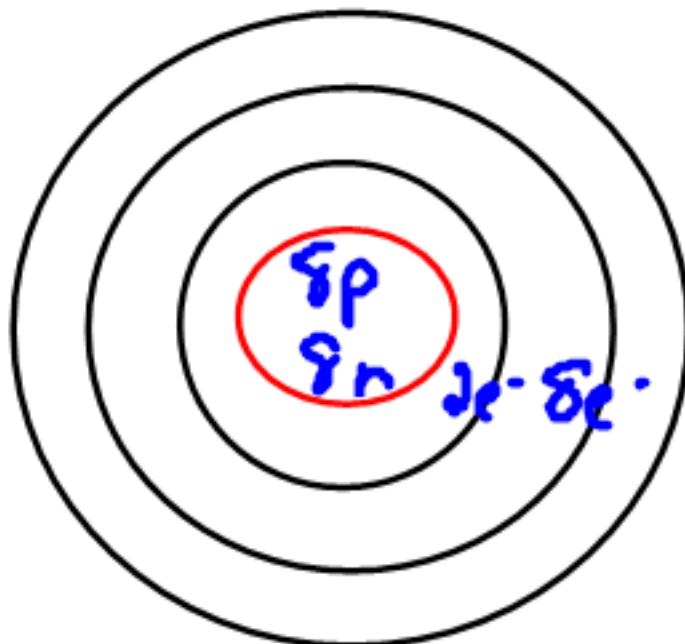
#p = 11
#e = ~~11~~ 10
#n = 12



Draw a negative Oxygen ion (O^{-2}):

Atomic # = 8
Mass # = 16

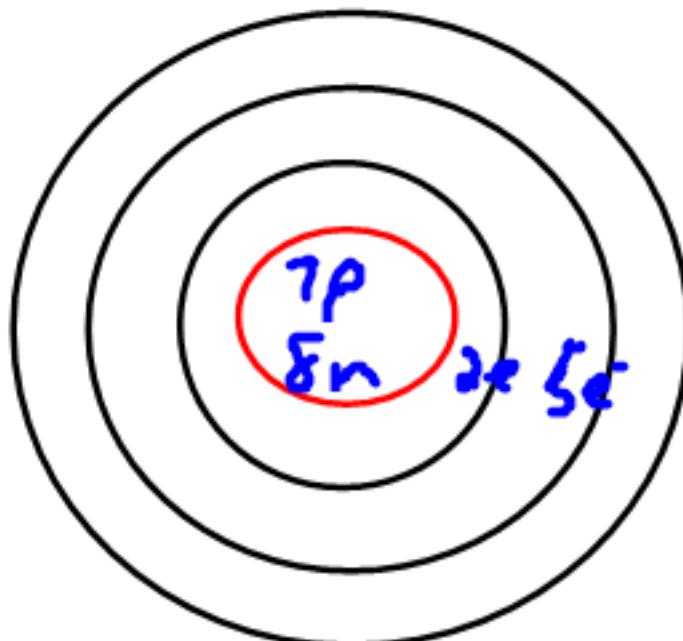
#p = 8
#e = 8 | 10
#n = 8



Draw Nitrogen-15:

Atomic # = 7
Mass # = 15

#p = 7
#e = 7
#n = 8



Place the following atomic models in order from Oldest to most recent and then place name of scientist under their model:



Dalton

Oldest



Thomson



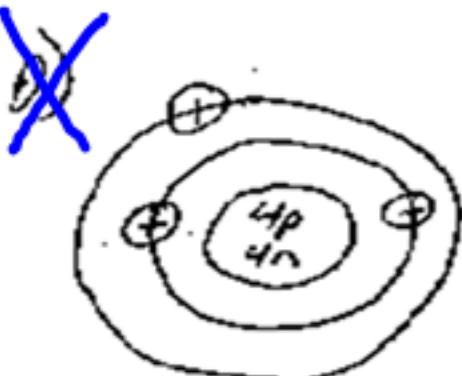
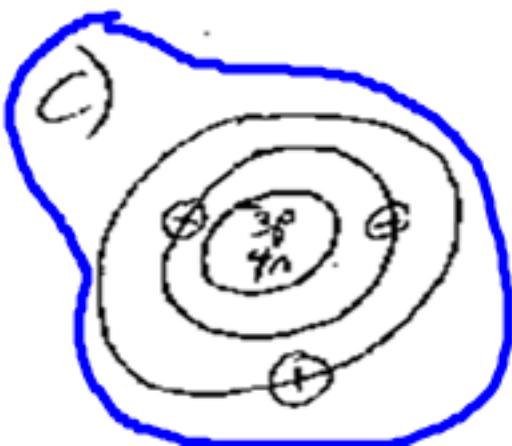
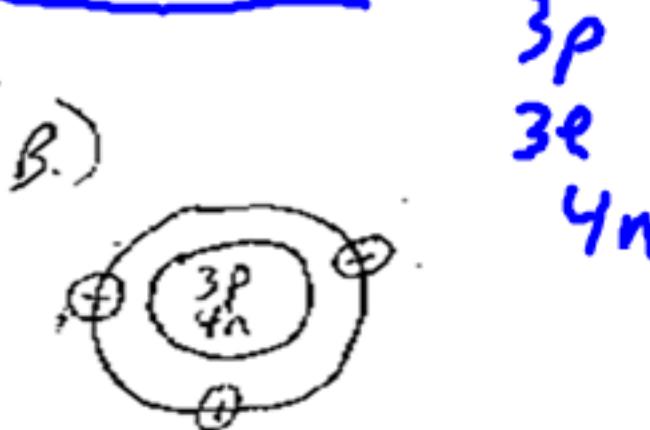
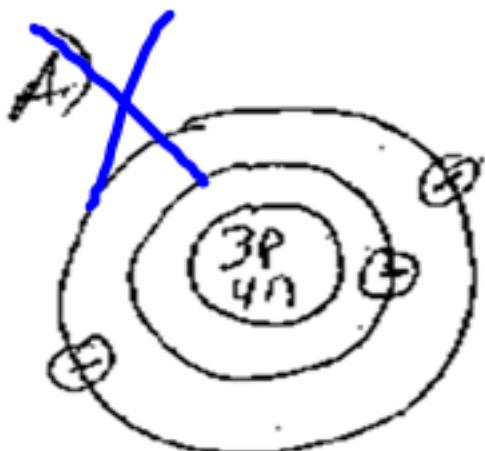
Rutherford



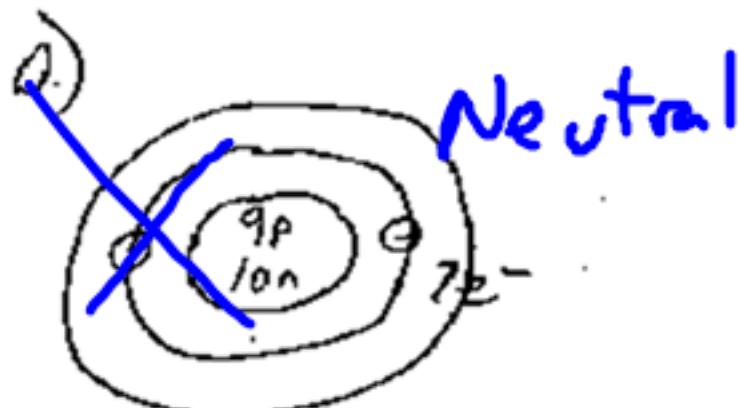
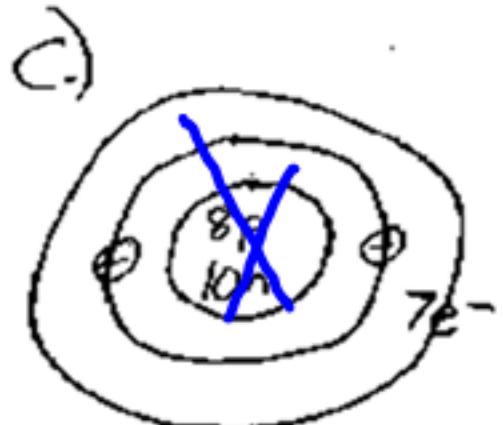
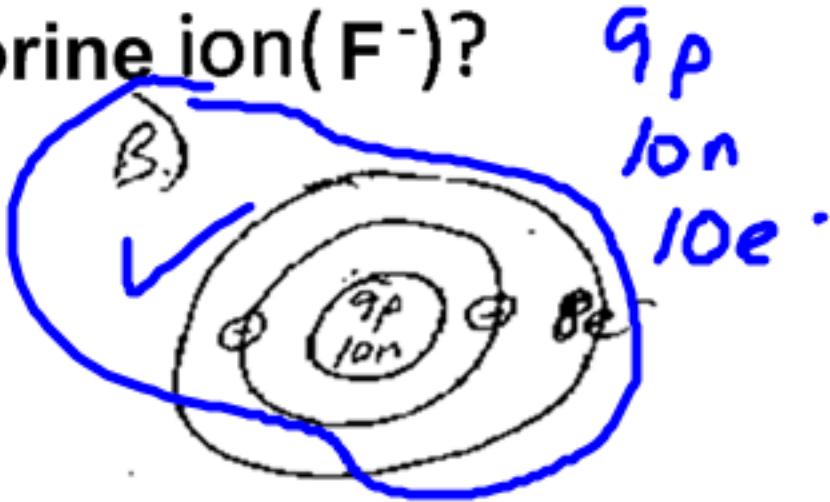
Bohr

Most recent

Which of the following represents a
neutral Lithium atom?



Which of the following represents a negative Fluorine ion (F^-)?

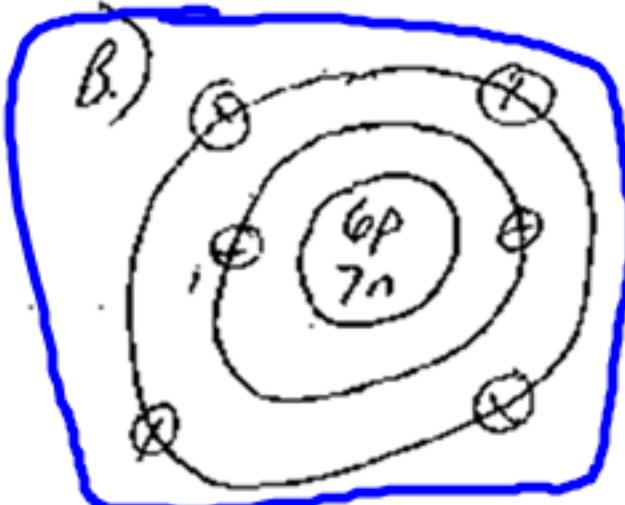


Which of the following represents C-13?

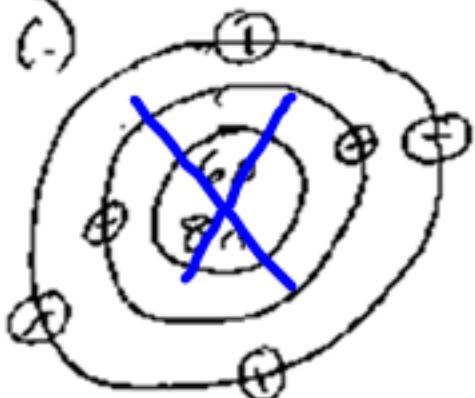
A)



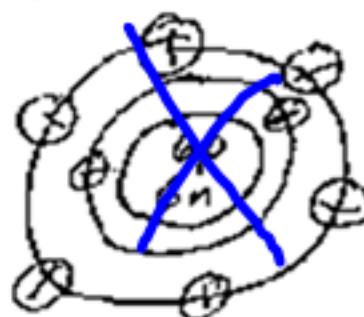
B.)



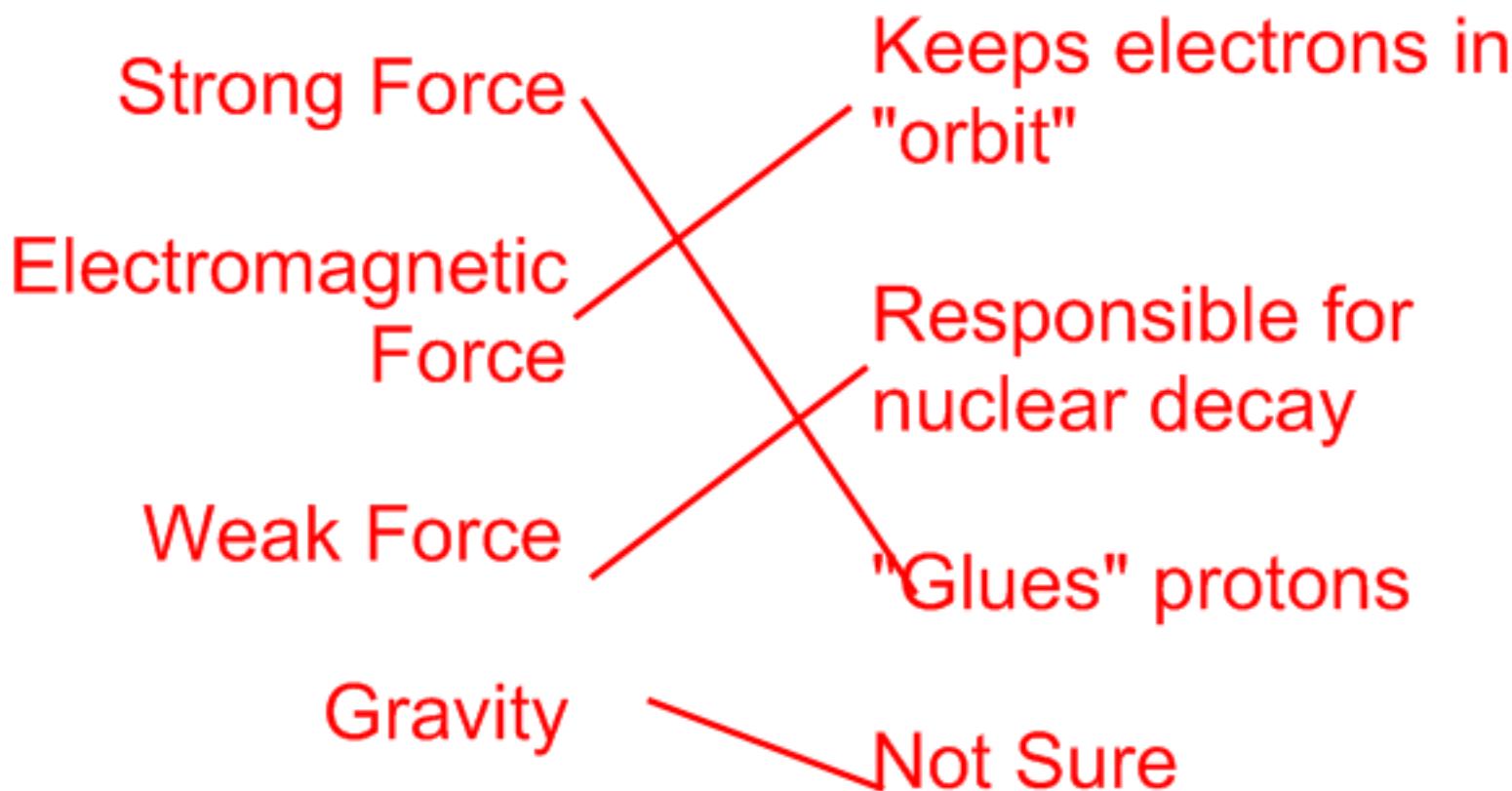
C)



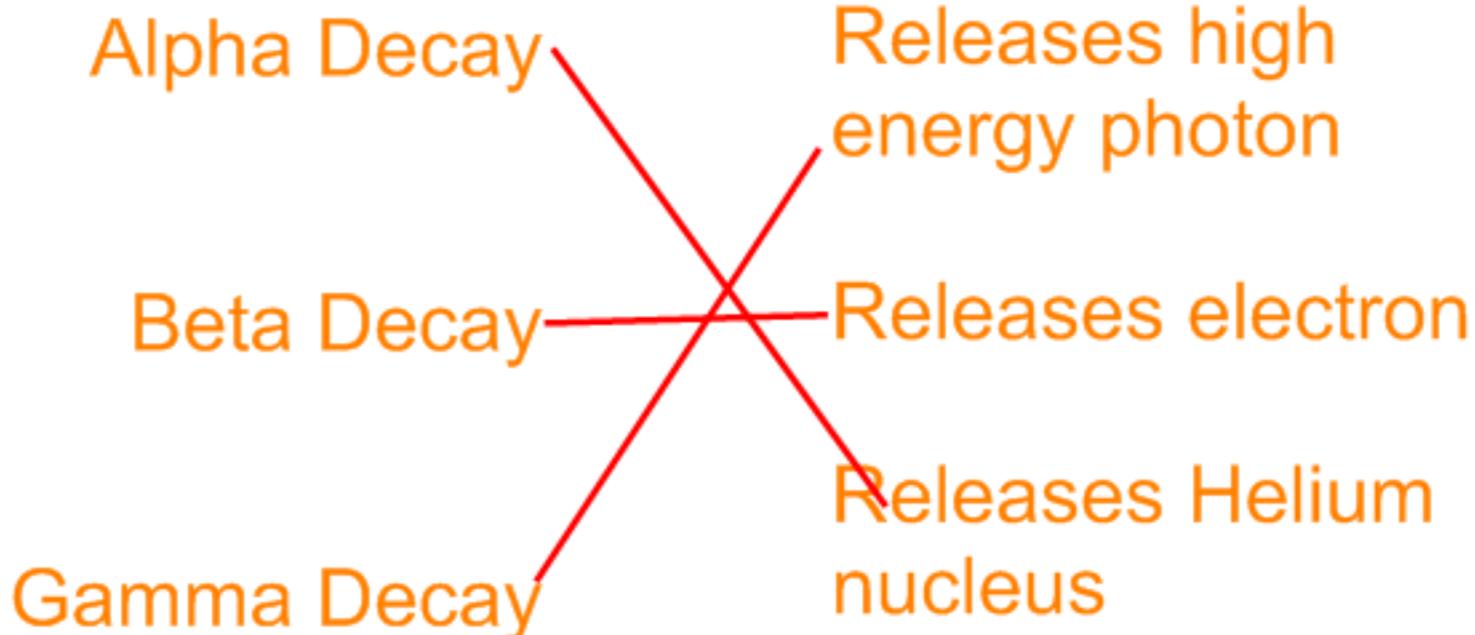
D)



Match the following "Forces within the Atom" with their role in the Atomic Structure:



Match the following:



Match the following:

Alpha Decay

Can be stopped by
aluminum foil

Beta Decay

Can be stopped by
sheet of paper

Gamma Decay

Can be stopped by
block of lead

Match the following:

Alpha Decay ————— Results in mass change!

Beta Decay

Results in energy loss!

Gamma Decay

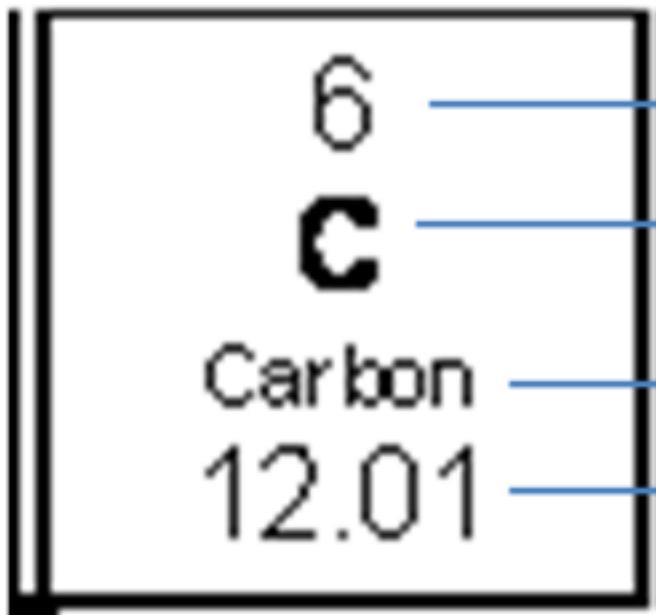
Results in change in substance, but no change in mass!!

1. What is the atomic # of Beryllium-10? 4
2. How many protons are found in Carbon-13? 6
3. How many neutrons are found in Boron-11? 6
4. A certain atom has 8 protons, 8 electrons and 9 neutrons.
What is the atomic # of the atom? 8
What is the mass # of the atom? 17
5. Copper's Atomic Mass is 63.546. What is the most common isotope of Copper? Cu - 64
6. What 2 forces hold the nucleus of an atom together?
1. Strong
2. electromagnet.

Mendeleev is credited with the establishment of the 1st Periodic Table. His table was set up in order of increasing Atomic Weight(mass).

Moseley is credited with the development of the Modern Periodic Table. His table was set up in order of increasing Atomic Number.

Drag and Drop:



6 → Atomic Number

C → Chemical Symbol

Carbon → Element Name

12.01 → Average Atomic Mass

Label the number of valence electrons:

1 2 3 4 5 6 7 8

1 1A																				
1 H Hydrogen 1.008	2 2A																			
3 Li Lithium 6.941	4 Be Beryllium 9.012																			
11 Na Sodium 22.99	12 Mg Magnesium 24.31	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9 9B	10 8B	11 1B	12 2B	13 3A	14 4A	15 5A	16 6A	17 7A	18 8A	19 He Helium 4.003		
19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.69	29 Cu Copper 63.55	30 Zn Zinc 65.39	31 Ga Gallium 69.72	32 Ge Germanium 72.61	33 As Arsenic 74.92	34 Se Selenium 78.96	35 Br Bromine 79.90	36 Kr Krypton 83.80			
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	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			
55 Cs Cesium 132.	56 Ba Barium 137.	57 La Lanthanum 138.	72 Hf Hafnium 178.	73 Ta Tantalum 181.0	74 W Tungsten 183.8	75 Re Rhenium 186.	76 Os Osmium 190.2	77 Ir Iridium 192.22	78 Pt Platinum 195.08	79 Au Gold 196.96	80 Hg Mercury 200.59	81 Tl Thallium 204.38	82 Pb Lead 207.2	83 Bi Bismuth 208.98	84 Po Polonium (209)	85 At Astatine (210)	86 Rn Radon (222)			
87 Fr Francium (223)	88 Ra Radium 226.0	89 Ac Actinium 227.0	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 Uus Ununnilium (269)	111 Uuo Ununoctium (272)	112 Uub Ununbium (277)									

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 237.0	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 Neptunium (259)	103 Lr Lawrencium (262)					

Label the initials for the Family Names:

A AE

PERIODIC TABLE OF THE ELEMENTS

H NG+

1 1A H Hydrogen 1.008	2 2A He Helium 4.003	3 Li Lithium 6.941	4 Be Beryllium 9.012	5 Boron 10	6 C Carbon 12	7 N Nitrogen 14	8 O Oxygen 16	9 F Fluorine 19.00	10 Ne Neon 20.18
11 Na Sodium 22.99	12 Mg Magnesium 24.31	3 3B Scandium 44.96	4 4B Titanium 47.88	5 5B Vanadium 50.94	6 6B Chromium 52.00	7 7B Manganese 54.94	8 8B Iron 55.85	9 9B Cobalt 58.93	10 10B Nickel 58.69
19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.69
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	43 Tc Technetium (98)	44 Ru Ruthenium 101.1	45 Rh Rhodium 102.9	46 Pd Palladium 106.4
55 Cs Cesium 132.	56 Ba Barium 137.	57 La Lanthanum 138.	58 Hf Hafnium 178.	59 Ta Tantalum 181.0	60 W Tungsten 183.8	61 Re Rhenium 186.	62 Os Osmium 190.2	63 Ir Iridium 192.22	64 Pt Platinum 195.08
87 Fr Francium (223)	88 Ra Radium 226.0	89 Ac Actinium 227.0	104 Rf Rutherfordium (261)	105 Db Dubnium (262)	106 Sg Seaborgium (263)	107 Bh Bohrium (264)	108 Hs Hassium (265)	109 Mt Meitnerium (266)	110 Uuu Ununnilium (269)
								111 Uuu Ununnilium (272)	112 Uub Ununbium (272)

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 237.0	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 Oxidation #'s:

+1
+2

PERIODIC TABLE OF THE ELEMENTS

+3 +4 -3 -2 -1 0

1 1A H Hydrogen 1.008	2 2A He Helium 4.003																															
3 Li Lithium 6.941	4 Be Beryllium 9.012																															
11 Na Sodium 22.99	12 Mg Magnesium 24.31	3 3B Boron 10.81	4 4B Carbon 12.01	5 5B Nitrogen 14.01	6 6B Oxygen 16.00	7 7B Fluorine 19.00	8 8B Neon 20.18	9 9B 13 3A Aluminum 26.98	10 10B Silicon 28.09	11 11B Phosphorus 30.97	12 12B Sulfur 32.07	13 13B Chlorine 35.45	14 14B Ar Argon 39.95	15 15B 16 16B 17 17B 18 18B 19 19B 20 20B 21 21B 22 22B 23 23B 24 24B 25 25B 26 26B 27 27B 28 28B 29 29B 30 30B 31 31B 32 32B 33 33B 34 34B 35 35B 36 36B 37 37B 38 38B 39 39B 40 40B 41 41B 42 42B 43 43B 44 44B 45 45B 46 46B 47 47B 48 48B 49 49B 50 50B 51 51B 52 52B 53 53B 54 54B 55 55B 56 56B 57 57B 58 58B 59 59B 60 60B 61 61B 62 62B 63 63B 64 64B 65 65B 66 66B 67 67B 68 68B 69 69B 70 70B 71 71B																		
19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.69	29 Cu Copper 63.55	30 Zn Zinc 65.39	31 Ga Gallium 69.72	32 Ge Germanium 72.61	33 As Arsenic 74.92	34 Se Selenium 78.96	35 Br Bromine 79.90	36 Kr Krypton 83.80															
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	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															
55 Cs Cesium 132.	56 Ba Barium 137.	57 La Lanthanum 138.	58 Hf Hafnium 178.	59 Ta Tantalum 181.0	60 W Tungsten 183.8	61 Re Rhenium 186.	62 Os Osmium 190.2	63 Ir Iridium 192.22	64 Pt Platinum 195.08	65 Au Gold 196.96	66 Hg Mercury 200.59	67 Tl Thallium 204.38	68 Pb Lead 207.2	69 Bi Bismuth 208.98	70 Po Polonium (209)	71 At Astatine (210)	72 Rn Radon (222)															
87 Fr Francium (223)	88 Ra Radium 226.0	89 Ac Actinium 227.0	104 Rf Rutherfordium (261)	105 Db Dubnium (262)	106 Sg Seaborgium (263)	107 Bh Bohrium (264)	108 Hs Hassium (265)	109 Mt Meitnerium (266)	110 Uuu Ununnilium (269)	111 Uuu Ununnilium (272)	112 Uub Ununnilium (272)																					

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90 Th Thorium 232.0	91 Pa Protactinium 231.0	92 U Uranium 238.0	93 Np Neptunium 237.0	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 Neptunium (259)	103 Lr Lawrencium (262)					

Circle the Metals:

PERIODIC TABLE OF THE ELEMENTS

1 1A H Hydrogen 1.008	2 2A He Helium 4.003																			
3 3A Li Lithium 6.941	Be Beryllium 9.012																			
11 Na Sodium 22.99	12 Mg Magnesium 24.31	3 3B Al Aluminum 26.98	4 4B Si Silicon 28.09	5 5B P Phosphorus 30.97	6 6B C Carbon 12.01	7 7B N Nitrogen 14.01	8 8B O Oxygen 16.00	9 9B F Fluorine 19.00	10 10B Ne Neon 20.18											
19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.69	29 Cu Copper 63.55	30 Zn Zinc 65.39	31 Ga Gallium 69.72	32 Ge Germanium 72.61	33 As Arsenic 74.92	34 Se Selenium 78.96	35 Br Bromine 79.90	36 Kr Krypton 83.80			
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	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			
55 Cs Cesium 133	56 Ba Barium 137.	57 La Lanthanum 138.	58 Hf Hafnium 178.	59 Ta Tantalum 181.0	60 W Tungsten 183.8	61 Re Rhenium 186.	62 Os Osmium 190.2	63 Ir Iridium 192.22	64 Pt Platinum 195.08	65 Au Gold 196.96	66 Hg Mercury 200.59	67 Tl Thallium 204.38	68 Pb Lead 207.2	69 Bi Bismuth 208.98	70 Po Polonium (209)	71 At Astatine (210)	72 Rn Radon (222)			
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Th Thorium 232.0	Pa Protactinium 231.0	238.0	237.0	244.0	243.0	247.0	246.0	245.0	251.0	252.0	253.0	254.0	255.0	256.0	257.0	258.0	259.0	260.0

Circle the Non-metals:

PERIODIC TABLE OF THE ELEMENTS

		Periodic Table of the Elements																																			
		Period 1								Period 2																											
		Group 1A				Group 2A				Group 3A				Group 4A				Group 5A				Group 6A															
		1 H Hydrogen 1.008	2 He Helium 4.003	3 Li Lithium 6.941	4 Be Beryllium 9.012	5 B Boron 10.81	6 C Carbon 12.01	7 N Nitrogen 14.01	8 O Oxygen 16.00	9 F Fluorine 19.00	10 Ne Neon 20.18	11 Na Sodium 22.99	12 Mg Magnesium 24.31	13 Al Aluminum 26.98	14 Si Silicon 28.09	15 P Phosphorus 30.97	16 S Sulfur 32.07	17 Cl Chlorine 35.45	18 Ar Argon 39.95	19 K Potassium 39.10	Ca Calcium 40.08	Sc Scandium 44.96	Ti Titanium 47.88	V Vanadium 50.94	Cr Chromium 52.00	Mn Manganese 54.94	Fe Iron 55.85	Co Cobalt 58.93	Ni Nickel 58.69	Cu Copper 63.55	Zn Zinc 65.39	Ga Gallium 69.72	Ge Germanium 72.61	As Arsenic 74.92	Se Selenium 78.96	Br Bromine 79.90	Kr Krypton 83.80
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	Te Technetium (98)	Ru Ruthenium 101.1	Rh Rhodium 102.9	Pd Palladium 106.4	Ag Silver 107.9	Cd Cadmium 112.4	In Indium 114.8	Sn Tin 118.7	Sb Antimony 121.8	Te Tellurium 127.6	I Iodine 126.9	Xe Xenon 131.3																				
55 Cs Cesium 132.	56 Ba Barium 137.	57 La Lanthanum 138.	Hf Hafnium 178.	Ta Tantalum 181.0	W Tungsten 183.8	Re Rhenium 186.	Os Osmium 190.2	Ir Iridium 192.22	Pt Platinum 195.08	Au Gold 196.96	Hg Mercury 200.59	Tl Thallium 204.38	Pb Lead 207.2	Bi Bismuth 208.98	Po Polonium (209)	At Astatine (210)	Rn Radon (222)																				
87 Fr Francium (223)	88 Ra Radium 226.0	89 Ac Actinium 227.0	104 Rf Rutherfordium (261)	105 Db Dubnium (262)	106 Sg Seaborgium (263)	Bh Bohrium (264)	Hs Hassium (265)	Mt Meitnerium (266)	Uuu Ununtrium (269)	Uuu Ununpentium (272)	Uub Ununhexium (272)																										

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 237.0	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 Neptunium (259)	103 Lr Lawrencium (262)

Circle the Metalloids:

PERIODIC TABLE OF THE ELEMENTS

1 IA H Hydrogen 1.008	2 2A Be Beryllium 9.012																			18 IA He Helium 4.003	
3 Li Lithium 6.941	4 Be Beryllium 9.012																			2 He Helium 4.003	
11 Na Sodium 22.99	12 Mg Magnesium 24.31	3 3B Boron 10.81	4 4B Boron 10.81	5 5B Boron 10.81	6 6B Boron 10.81	7 7B Boron 10.81	8 8B Boron 10.81	9 9B Boron 10.81	10 10B Boron 10.81	11 11B Boron 10.81	12 12B Boron 10.81	13 13A Boron 10.81	14 14A Carbon 12.01	15 15A Nitrogen 14.01	16 16A Oxygen 16.00	17 17A Fluorine 19.00	18 18A Neon 20.18				
19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.69	29 Cu Copper 63.55	30 Zn Zinc 65.39	31 Ga Gallium 69.72	32 Al Aluminum 26.98	33 P Phosphorus 30.97	34 S Sulfur 32.07	35 Cl Chlorine 35.45	36 Ar Argon 39.95				
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	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 Ge Germanium 72.67	52 As Arsenic 74.92	53 Se Selenium 78.96	54 Br Bromine 79.90	55 Kr Krypton 83.80			
55 Cs Cesium 132.	56 Ba Barium 137.	57 La Lanthanum 138.	58 Hf Hafnium 178.	59 Ta Tantalum 181.0	60 W Tungsten 183.8	61 Re Rhenium 186.	62 Os Osmium 190.2	63 Ir Iridium 192.22	64 Pt Platinum 195.08	65 Au Gold 196.96	66 Hg Mercury 200.59	67 Tl Thallium 204.38	68 Pb Lead 207.2	69 Bi Bismuth 208.98	70 Po Polonium (209)	71 At Astatine (210)	72 Rn Radon (222)				
87 Fr Francium (223)	88 Ra Radium 226.0	89 Ac Actinium 227.0	104 Rf Rutherfordium (261)	105 Db Dubnium (262)	106 Sg Seaborgium (263)	107 Bh Bohrium (264)	108 Hs Hassium (265)	109 Mt Meitnerium (266)	110 Uuu Ununnilium (269)	111 Uuu Ununnilium (272)	112 Uub Ununnilium (272)										

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 237.0	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 Neptunium (259)	103 Lr Lawrencium (262)					

Circle the most active metals!!

PERIODIC TABLE OF THE ELEMENTS

PERIODIC TABLE OF THE ELEMENTS																	
1 IA																18 VA	
1 H Hydrogen 1.008	2 2A																2 He Helium 4.003
3 Li Lithium 6.941	4 Be Beryllium 9.012																
11 Na Sodium 22.99	12 Mg Magnesium 24.31	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9 9B	10 10B	11 11B	12 12B	13 Al Aluminum 26.98	14 Si Silicon 28.09	15 P Phosphorus 30.97	16 S Sulfur 32.07	17 Cl Chlorine 35.45	18 Ar Argon 39.95
19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.69	29 Cu Copper 63.55	30 Zn Zinc 65.39	31 Ga Gallium 69.72	32 Ge Germanium 72.61	33 As Arsenic 74.92	34 Se Selenium 78.96	35 Br Bromine 79.90	36 Kr Krypton 83.80
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	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
55 Cs Cesium 132.	56 Ba Barium 137.	57 La Lanthanum 138.	58 Hf Hafnium 178.	59 Ta Tantalum 181.0	60 W Tungsten 183.8	61 Re Rhenium 186.	62 Os Osmium 190.2	63 Ir Iridium 192.22	64 Pt Platinum 195.08	65 Au Gold 196.96	66 Hg Mercury 200.59	67 Tl Thallium 204.38	68 Pb Lead 207.2	69 Bi Bismuth 208.98	70 Po Polonium (209)	71 At Astatine (210)	72 Rn Radon (222)
87 Fr Francium (223)	88 Ra Radium 226.0	89 Ac Actinium 227.0	90 Rf Rutherfordium (261)	91 Db Dubnium (262)	92 Sg Seaborgium (263)	93 Bh Bohrium (262)	94 Hs Hassium (265)	95 Mt Meitnerium (265)	96 Uus Ununhexium (269)	97 Uuu Ununpentium (272)	98 Uus Ununtrium (273)	99 Uub Ununbium (277)	100 Uup Ununpentium (277)	101 Uut Ununtrium (277)	102 Uus Ununpentium (277)	103 Uuu Ununtrium (277)	104 Uub Ununbium (277)

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 237.0	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 Neptunium (259)	103 Lr Lawrencium (262)

Circle the most active Nonmetals!!

PERIODIC TABLE OF THE ELEMENTS

1 1A H Hydrogen 1.008	2 2A He Helium 4.003																			
3 Li Lithium 6.941	4 Be Beryllium 9.012																			
11 Na Sodium 22.99	12 Mg Magnesium 24.31	3 3B Boron 10.81	4 4B Carbon 12.01	5 5B Nitrogen 14.01	6 6B Oxygen 16.00	7 7B Fluorine 19.00	8 8B Neon 20.18	9 9A Hydrogen 1.008	10 10A Helium 4.003											
19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.88	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93	28 Ni Nickel 58.69	29 Cu Copper 63.55	30 Zn Zinc 65.39	31 Ga Gallium 69.72	32 Ge Germanium 72.61	33 As Arsenic 74.92	34 Se Selenium 78.96	35 Br Bromine 79.90	36 Kr Krypton 83.80			
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	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			
55 Cs Cesium 132.	56 Ba Barium 137.	57 La Lanthanum 138.	58 Hf Hafnium 178.	59 Ta Tantalum 181.0	60 W Tungsten 183.8	61 Re Rhenium 186.	62 Os Osmium 190.2	63 Ir Iridium 192.22	64 Pt Platinum 195.08	65 Au Gold 196.96	66 Hg Mercury 200.59	67 Tl Thallium 204.38	68 Pb Lead 207.2	69 Bi Bismuth 208.98	70 Po Polonium (209)	71 At Astatine (210)	72 Rn Radon (222)			
87 Fr Francium (223)	88 Ra Radium 226.0	89 Ac Actinium 227.0	104 Rf Rutherfordium (261)	105 Db Dubnium (262)	106 Sg Seaborgium (263)	107 Bh Bohrium (264)	108 Hs Hassium (265)	109 Mt Meitnerium (266)	110 Uuu Ununnilium (269)	111 Uuu Ununnilium (272)	112 Uub Ununnilium (272)									

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 237.0	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 Neptunium (259)	103 Lr Lawrencium (262)					

Bond Types:

In each pair of elements below, indicate which type of bond will be formed:

1. Carbon and Hydrogen _____ Cov.

2. Calcium and Oxygen _____ Ionic

3. Zinc and Zinc _____ Met

4. Potassium and Nitrogen _____ Ionic

5. Chlorine and Chlorine _____ Co

6. Magnesium and Selenium _____ Ionic

Draw an electron dot diagram(Lewis Dot Structure) of the following elements:

1. Hydrogen



2. Nitrogen



3. Chlorine



4. Neon



There are 7 horizontal rows called periods on the Periodic Table. They represent the different energy levels of the elements.

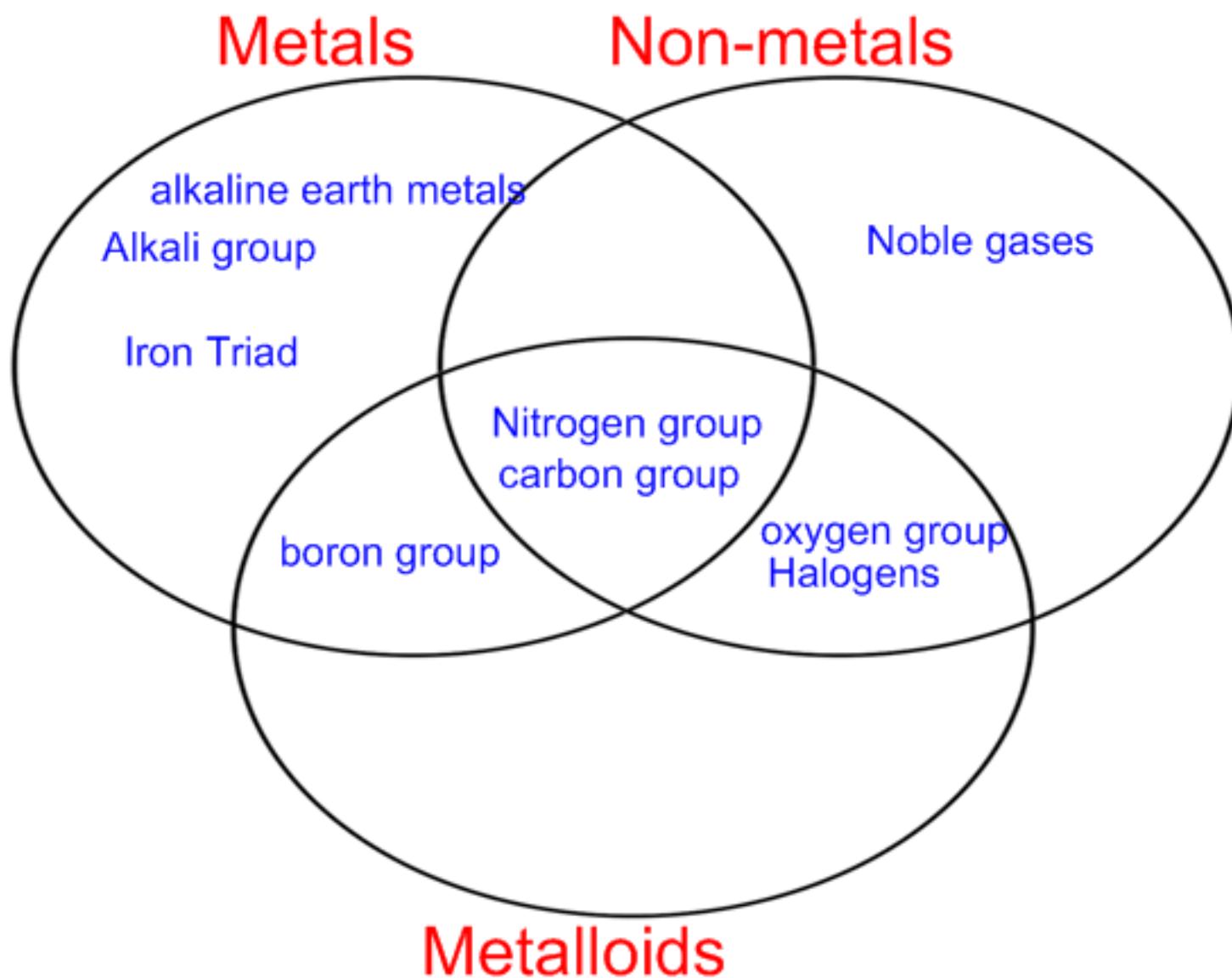
There are 18 vertical columns, called Families(groups) on the Periodic Table.

Ions vs. Isotopes:

- Ions—Different # of electrons
- Isotopes—Different # of neutrons

Name	Atomic Mass	Atomic #	# of protons	# of neutrons
H-1	1	1	1	0
H-2	2	1	1	1
H-3	3	1	1	2

Place the following groups of elements with what the group contains:



A AE Write all important information!!!!!!

1 1 2
1 2 1 2

Bond type

PERIODIC TABLE OF THE ELEMENTS

$I \rightarrow MN$ $C \rightarrow N+N$ $3+4+5+6+7$ $-1-2-3-4-5$

$T M$ $M \rightarrow M+M$

1 1A	2 2A	3	4	5	6	7	8 2 He Helium 4.003	
1 H Hydrogen 1.008	2 2A							
3 Li Lithium 6.941	4 Be Beryllium 9.012							
11 Na Sodium 22.99	12 Mg Magnesium 24.31	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9 9B
19 K Potassium 39.10	20 Ca Calcium 40.08	21 Sc Scandium 44.96	22 Ti Titanium 47.86	23 V Vanadium 50.94	24 Cr Chromium 52.00	25 Mn Manganese 54.94	26 Fe Iron 55.85	27 Co Cobalt 58.93
37 Rb Rubidium 85.47	38 Sr Strontium 87.62	39 Y Yttrium 88.91	40 Zr Zirconium 91.22	41 Nb Niobium 92.91	42 Mo Molybdenum 95.94	43 Tc Technetium (98)	44 Ru Ruthenium 101.1	45 Rh Rhodium 102.9
55 Cs Cesium 132.	56 Ba Barium 137.	57 La Lanthanum 138.	58 Hf Hafnium 178.	59 Ta Tantalum 181.0	60 W Tungsten 183.8	61 Re Rhenium 186.	62 Os Osmium 190.2	63 Ir Iridium 192.22
87 Fr Francium (223)	88 Ra Radium 226.0	89 Ac Actinium 227.0	90 Rf Rutherfordium (261)	104 Db Dubnium (262)	105 Sg Seaborgium (263)	106 Bh Bohrium (262)	107 Hs Hassium (265)	108 Mt Meitnerium (266)
				109 Uuu Ununtrium (269)	110 Uuu Ununpentium (269)	111 Uuu Ununhexium (272)	112 Uub Ununbium (277)	

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 237.0	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (251)	99 Es Einsteinium (253)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Neptunium (259)	103 Lr Lawrencium (262)

Review can be found at
www.albphysicalscience.weebly.com

Click on Atomic Structure and
Periodic Table Test Review!!