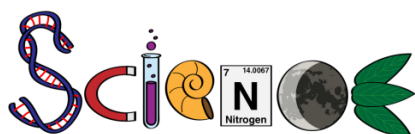


SCIENCE PLANNER: WEEK OF 9.16.19



OBJECTIVES FOR THE WEEK:

Biology : What is cell differentiation and how does it work?. Bio.1.1.3 Explain how instructions in DNA lead to cell differentiation and result in cells specialized to perform specific functions in multicellular organisms. Bio.4.2.2 Explain ways that organisms use released energy for maintaining homeostasis (active transport).

Chemistry: What are compounds and how do they form? Chm.1.2.1 Compare (qualitatively) the relative strengths of ionic, covalent, and metallic bonds. Chm.1.2.2 Infer the type of bond and chemical formula formed between atoms. Chm.1.2.3 Compare inter- and intra- particle forces. Chm.1.2.4 Interpret the name and formula of compounds using IUPAC convention. Chm.1.2.5 Compare the properties of ionic, covalent, metallic, and network compounds.

DAILY AGENDA – (SUBJECT TO CHANGE) <https://evanscca.weebly.com/>

DAY	Biology	Chemistry
Mon 9.16	<p>-Warm Up -NOTES: Cell transport and homeostasis</p> <p>*HW= pg 9</p>	<p>-polyatomic ion quiz -NOTES: Ionic Bonding and compound names -Practice= Guided reading</p> <p>*HW= #30-45</p>
Tues 9.17	<p>-Warm Up -Go over HW -Finish NOTES: Cell transport and homeostasis -LAB- Gummy BEAR osmosis!</p>	<p>-polyatomic ion quiz -Go over HW -Finish Notes: Covalent compounds -</p>

	<p>*HW= http://phet.colorado.edu/en/simulation/membrane-channels -What is this? -Name all the things you can do with it. -Explain the purpose of this.</p>	<p>-HW= DO $\frac{3}{4}$ of CK12 Nomenclature, TOP HALF of Ionic Compounds worksheet</p>
<p>Wed 9.18</p>	<p>-LAB DAY 2- Gummy BEAR osmosis!</p> <p>FINISH ALL NOTES</p> <p>FINISH GUMMY BEAR LAB AND TURN IN!</p>	<p>-polyatomic ion quiz SOCREAVIC DAY!</p> <p>-Go over HW</p> <p>-Work through 9.13 test corrections (DUE THURS)</p> <p>-CK12 (Due Thurs)</p> <p>-ANY ionic compound questions</p>
<p>Thurs 9.19</p>	<p>County benchmark (not graded)</p> <p>-go over notes (review)</p> <p>LAB: Microscope -Endosymbiosis: picture ON your powerpoint, video below, study for test, finish lab https://www.youtube.com/watch?v=8oSqXAwLsZc</p>	<p>County benchmark (not graded)</p> <p>-ionic size differences</p> <p>-Naming Acids/bases</p> <p>-Stock names</p>
<p>Fri 9.20</p>	<p>TEST- Cells, Microscope, passive transport, 1 active question</p> <p>HW= Read Ch 2.16-2.22 on CK12</p>	<p>-polyatomic ion quiz incorporated into test.</p> <p>HW= read Ch 8 (sent to you via schoology)</p>

WARM UP 9/16/19	Sign in to rams mail!
WARM UP 9/17/19	SIGN in and then TURN OFF phone before you put it in phone jail!! Write down 3 things you learned yesterday.
WARM UP 9/18/19	What is the Length, width and volume of your Bear? What is the new mass of your bear?
WARM UP 9/19/19	BENCHMARK!!! my.ncedcloud.org Student ID:..... Password: CCCAIons2019 TEST # 3181702

**Passcode:
MA2DU9XY9**

WARM UP
9/20/19

**Three things I would like to see under
a microscope are....**



bit.ly/evansccca

2019-2020_Biology_FirstSixWeeks

ID: 3181702

Scheduled → In Progress → Completed  Online Passcode
MA2DU9XY9

Online Passcode
ID: 3181702 **MA2DU9XY9**

2019-2020_Chemistry_1st Six Weeks

ID: 3181715

Online Passcode

VA5JU6G

Calculate the empirical formula of a compound composed of 38.7 % C, 16.2 % H, and 45.1 %N.

tion between the zinc cation and the chloride anion, so you should write as shown.

	<i>zinc</i>	<i>iron (II)</i>	<i>iron (III)</i>	<i>gallium</i>	<i>silver</i>	<i>lead (IV)</i>
le	ZnCl₂	FeCl₂	FeCl₃	GaCl₃	AgCl	PbCl₄
e	Zn(C₂H₃O₂)₂	Fe(C₂H₃O₂)₂	Fe(C₂H₃O₂)₃	Ga(C₂H₃O₂)₃	Ag C₂H₃O₂	Pb(C₂H₃O₂)₄
e	Zn(NO₃)₂	Fe(NO₃)₂	Fe(NO₃)₃	Ga(NO₃)₃	AgNO₃	Pb(NO₃)₄
	ZnO	FeO	Fe₂O₃	Ga₂O₃	Ag₂O	PbO₂
	Zn₃N₂	Fe₃N₂	FeN	GaN	Ag₃N	Pb₃N₄
e	ZnSO₄	FeSO₄	Fe₂(SO₄)₃	Ga₂(SO₄)₃	Ag₂SO₄	Pb(SO₄)₂

the formulas for the following compounds:

opper (II) chloride **CuCl₂**

thium acetate **LiC₂H₃O₂**

writing ionic compounds practice.pdf - Adobe Acrobat Reader DC

File Edit View Window Help

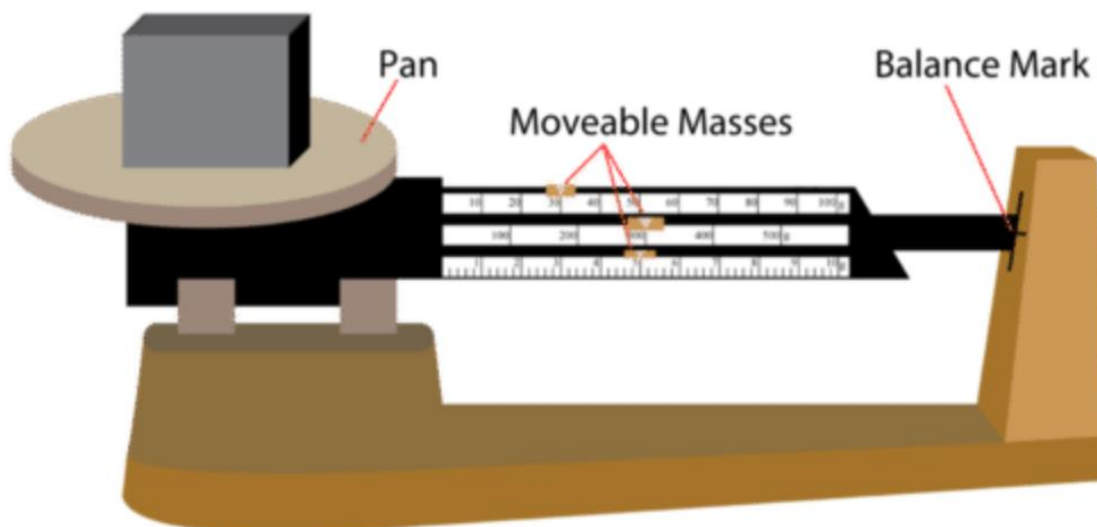
Home Tools writing ionic compo... x Sign In

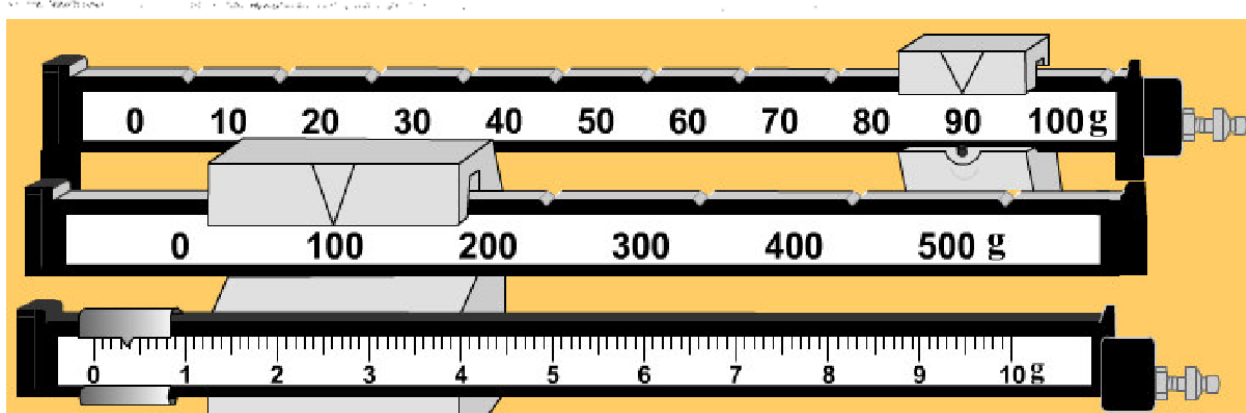
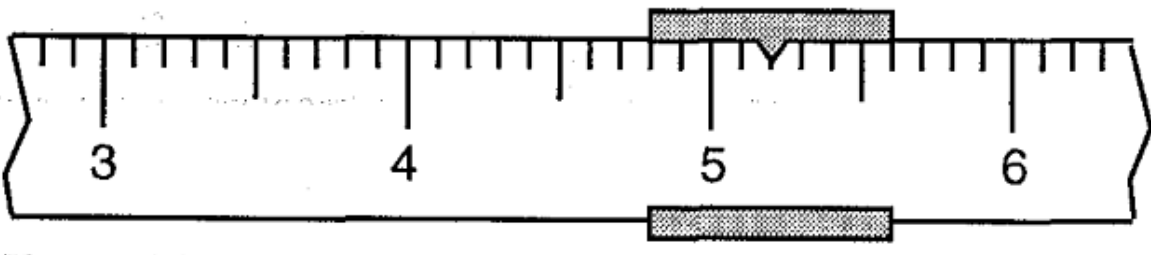
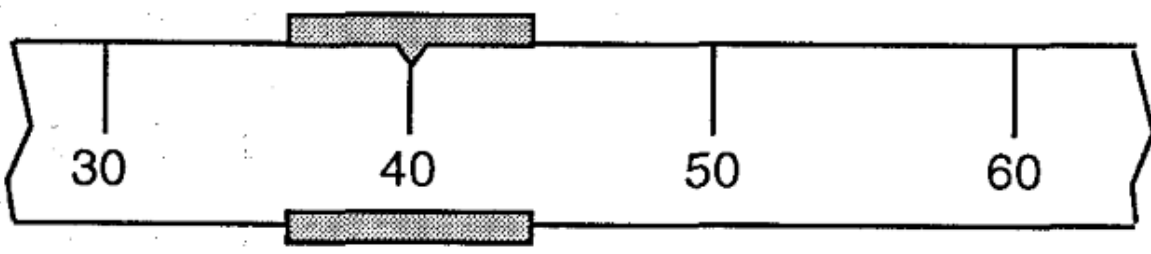
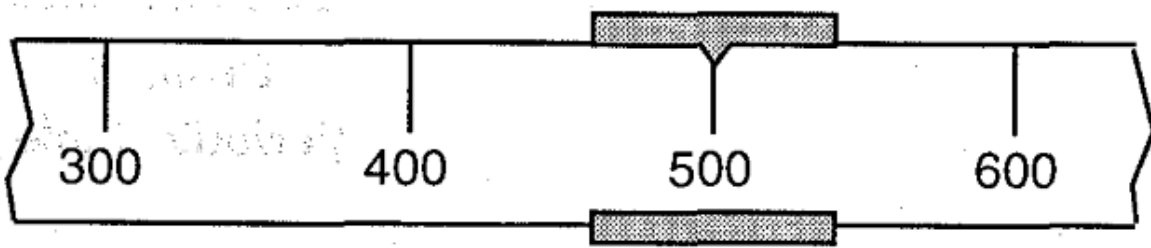
oxide	ZnO	FeO	Fe ₂ O ₃	Ga ₂ O ₃	Ag ₂ O	PbO ₂
nitride	Zn ₃ N ₂	Fe ₃ N ₂	FeN	GaN	Ag ₃ N	Pb ₃ N ₄
sulfate	ZnSO ₄	FeSO ₄	Fe ₂ (SO ₄) ₃	Ga ₂ (SO ₄) ₃	Ag ₂ SO ₄	Pb(SO ₄) ₂

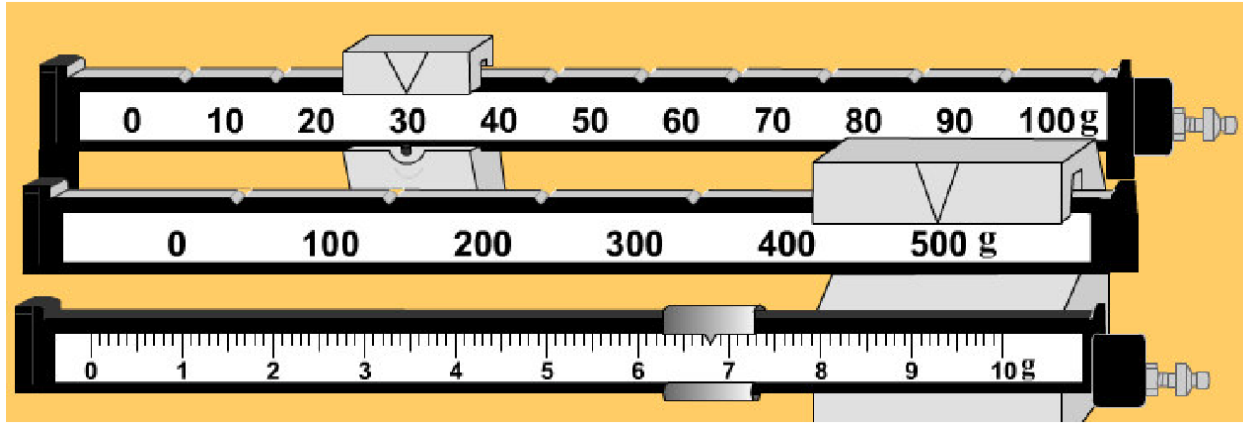
Write the formulas for the following compounds:

- copper (II) chloride **CuCl₂**
- lithium acetate **LiC₂H₃O₂**
- vanadium (III) selenide **V₂Se₃**
- manganese (IV) nitride **Mn₃N₄**
- beryllium oxide **BeO**
- sodium sulfate **Na₂SO₄**
- aluminum arsenide **AlAs**
- potassium chromate **K₂CrO₄**
- chromium (VI) cyanide **Cr(CN)₆**
- tin (II) sulfite **SnSO₃**

1:51 PM
9/17/2019







		Bella C.		Bella C.

Reviewing Content

7.1 Ions






















- Describe two ways that an ion forms from an atom.
- State the number of electrons either lost or gained in forming each ion.
 - Br^-
 - Na^+
 - As^{3-}
 - Ca^{2+}
 - Cu^+
 - H^-
- Name each ion in Problem 31. Identify each as an anion or a cation.
- Define valence electrons.
- How many electrons does each atom have? What group is each in?
 - nitrogen
 - lithium
 - phosphorus
 - barium
 - bromine
 - carbon
- Write electron dot structures for each of the following elements.
 - Cl
 - S
 - Al
 - Li
- How many electrons must each atom lose to attain a noble-gas electron configuration?
 - Ca
 - Al
 - Li
 - Ba
- Write the formula for the ion formed when each of the following elements loses its valence electrons.
 - aluminum
 - lithium
 - barium
 - potassium
 - calcium
 - strontium
- Why do nonmetals tend to form anions when they react to form compounds?
- What is the formula of the ion formed when the following elements gain or lose valence electrons and attain noble-gas configurations?
 - sulfur
 - sodium
 - fluorine
 - phosphorus
- How many electrons must be gained by each of the following atoms to achieve a stable electron configuration?
 - N
 - S
 - Cl
 - P

7.2 Ionic Bonds and Ionic Compounds

- Which of the following pairs of atoms would you expect to combine chemically to form an ionic compound?
 - Li and S
 - O and S
 - Al and O
 - F and Cl
 - I and K
 - H and N
 - Identify the kinds of ions that form each ionic compound.
 - calcium fluoride, CaF_2
 - aluminum bromide, AlBr_3
 - lithium oxide, Li_2O
 - aluminum sulfide, Al_2S_3
 - potassium nitride, K_3N
 - Explain why ionic compounds are electrically neutral.
 - Which of the following pairs of elements will not form ionic compounds?
 - sulfur and oxygen
 - sodium and calcium
 - sodium and sulfur
 - oxygen and chlorine
 - Write the formula for the ions in the following compounds.
 - KCl
 - BaSO_4
 - MgBr_2
 - Li_2CO_3
 - Most ionic substances are brittle. Why?
 - Explain why molten MgCl_2 does conduct an electric current although crystalline MgCl_2 does not.
- ### 7.3 Bonding in Metals
- Explain briefly why metals are good conductors of electricity.
 - Name the three crystal arrangements of closely packed metal atoms. Give an example of a metal that crystallizes in each arrangement.
 - Name some alloys that you have used or seen today.
 - Explain why the properties of all steels are not identical.

POLYATOMIC IONS: NAMES, FORMULAE & CHARGES

A polyatomic ion is a charged species consisting of two or more atoms covalently bonded together. Here's a guide to some of the most common examples!

						
AMMONIUM Formula: NH_4^+	ACETATE Formula: $\text{C}_2\text{H}_3\text{O}_2^-$	CARBONATE Formula: CO_3^{2-}	CHLORATE Formula: ClO_3^-	CHLORITE Formula: ClO_2^-	CHROMATE Formula: CrO_4^{2-}	CYANIDE Formula: CN^-
						
DICHROMATE Formula: $\text{Cr}_2\text{O}_7^{2-}$	HYDROGEN CARBONATE Formula: HCO_3^-	HYDROGEN SULFATE Formula: HSO_4^-	HYDROXIDE Formula: OH^-	HYPOCHLORITE Formula: ClO^-	NITRATE Formula: NO_3^-	NITRITE Formula: NO_2^-
						
PERCHLORATE Formula: ClO_4^-	PERMANGANATE Formula: MnO_4^-	PEROXIDE Formula: O_2^{2-}	PHOSPHATE Formula: PO_4^{3-}	SULFATE Formula: SO_4^{2-}	SULFITE Formula: SO_3^{2-}	THIOSULFATE Formula: $\text{S}_2\text{O}_3^{2-}$

LANDONE. BOBBY D.

8. If element has an electron configuration $1s^2 2s^2 2p^6 3s^2 3p^4 4s^2 3d^5 4p^5$ which of the following is most likely a property of this element?

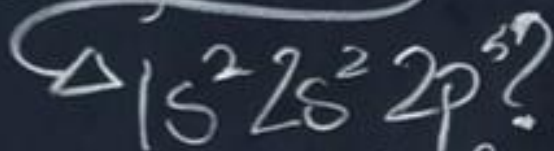
- A. low ionization energy. (It's a Halogen in group 17)
- B. forms ions with -2 charge. (Halogens only form -1 charges)
- C. Good electricity conductor. (It's a non-metal doesn't conduct)
- D. Forms salt with Sodium (Na). (A Halogen still forms salt & is very reactive with Alkali Metals)

12. What energy change accompanies this electron movement?

- A. The atom absorbs 1 photon of light.
- B. The atom emits one photon of light
- C. The atom absorbs 4 photons of light
- D. The atom emits 4 photons of light.



9) Which of the following would have chemical properties similar to the element that has the electron configuration



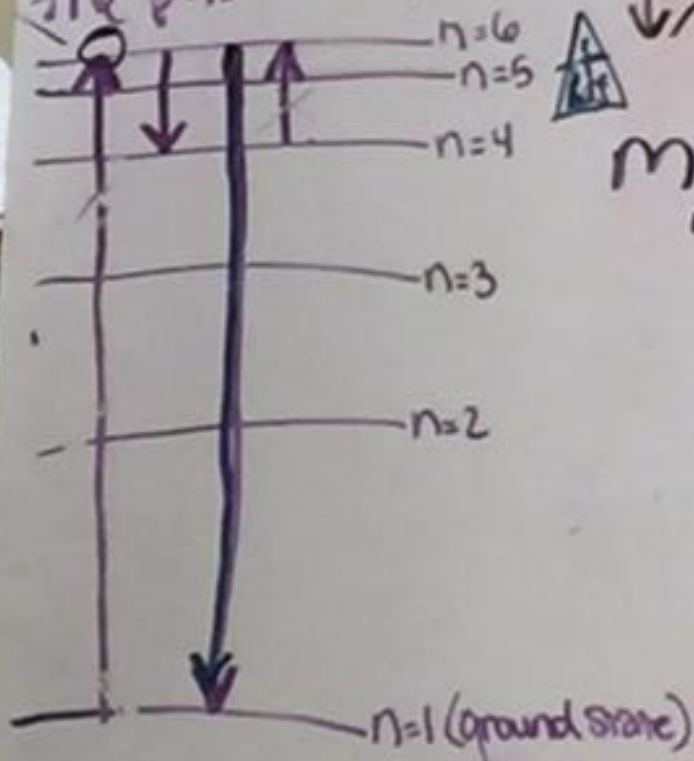
Chlorine & Fluorine
are both
Halogens.

Chlorine

Keaton J. Mac S.

10.) In the electron cloud model of the atom, what does the cloud represent?

19.) Which of the energy level transitions shown would produce the photon with the shortest wavelength?



$$\downarrow \lambda = \uparrow f = \uparrow E$$

most energy!

ROSTIE Y, BLAKE H.

5. Which produces the longest wavelength?

4 → 3



16. Which emits a photon?



420nm - violet

21. What color of light is?

6 → 2

410nm

$$\Delta E = -2.18 \times 10^{-18} \text{ J} \left(\frac{1}{n_{\text{final}}^2} - \frac{1}{n_{\text{initial}}^2} \right)$$

$$E = h\nu$$

$$\nu = \frac{E}{h}$$

$$h = 6.626 \times 10^{-34} \text{ J}\cdot\text{s}$$

28. Which element has 2 electrons in the outermost energy level?

A. Cs - 55

B. Mg - 12

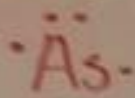
C. B - 5

D. Ar - 18



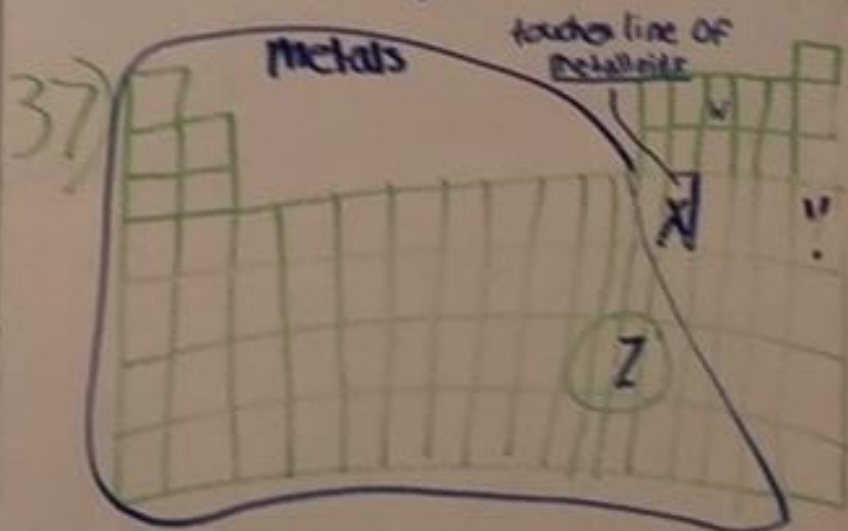
* Solids move to spread out
Kamy S., A.C. VUINS

AW 35) As = Astatine (#83) It is
a in group 15 and
at has 5 valence electrons.



36) C. group 17 (7B)

Bromine: $\cdot \ddot{\text{Br}} \cdot$ - all halogens have 7
valence electrons



D. Z

only metal

5,8,10,16,12, 18, 19, 22, 21, 23, 1, 19,13,6, 20, 43 , 16, 44, 48, 31, 33,49, 35

STUDENT PRESENTATIONS:

-THUMB RULE!!!

-What the question is about and what it is asking put simply

-How to find the right answer

-Show all work and units

-Explain why the final answer makes sense

Student A	Student B	Problem #'s
Keaton	Mac	10,19,29
Bobby	Landon	8,12,28
Rosie	Blake	5,16,21
Evans	Kamy	35, 36, 37, 38
St	Az	19, 43, 31
Sa	J	13,16,33
Sh	Be	6, 44, 49
L	Ab	20, 48,35

3rd block:

Factor
↓
more shells
= bigger

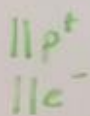
→ more "magnets"

F = most reactive
non-metal

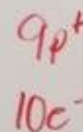
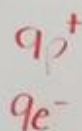
Azarigah, Steven

what is
order of

Cations - smaller
(lost outer shell)



Anion = ions are larger
(electron repulsion)



Az
31)
dia
be s
oxyg
o

SAMANTHA 13, 16, 33

Jacqueline B.

13.) Which Properties are MOST affected by the number of electron orbitals around a non-metal atom?

A.) Nuclear
- same as P.

B.) Physical
- only slightly affected

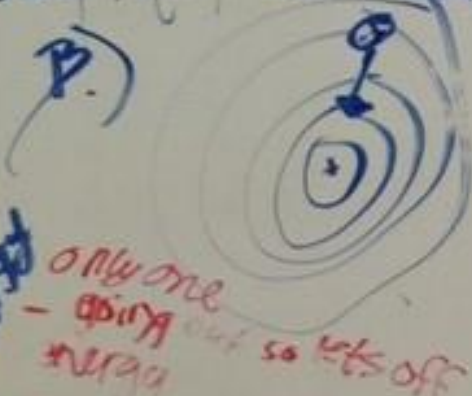
C.) Chemical
- orbitals affect amount of valence e.

D.) Radiative
- same as A

16.) In which figure (not to scale) would the transition of the electron in the atom produce an emission line? CORRECT



- going out,
losing in energy



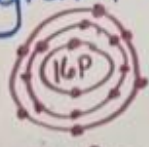
only one
- going out so lots off
energy

Azarigah, Steven

31) How will a diagram of Sulfur be similar to the Oxygen diagram?



Oxygen



Sulfur

D) Both diagrams show 6 valence electrons

19) Which energy level transitions shown would produce the photon with the shortest wave length?

C) Because the photon jumps from N6 to N1 that pair of a jump creates short wave length

Carbon → Element 1
 Fluorine → Element 2
 Oxygen → Element 3

43) What is the order of the Elements from smallest to largest atomic radius?

D) Element 2, 3, 1

Larger the atomic #
 Smaller the atomic radius within the same period

Element	Electron config
Carbon	1s ² 2s ² 2p ²
Fluorine	1s ² 2s ² 2p ⁵
Oxygen	1s ² 2s ² 2p ⁴

Shannon Bella 6.44.47

Shannon, Bella ^{6.44.47}

⑥ A neutral atom of a certain element has the electron configuration $1s^2 2s^2 2p^6 3s^2 3p^4$. How many valence electrons does the atom have?

⑧ C, Be you go w/ the larger # so $3s^2 + 3p^4$ are the larger, therefore you add.

④④ Which group of elements is arranged in order of increasing atomic radii?

① O, S, Se, Te; Be the larger atomic radii are found from top to bottom & right to left

④⑨ Which statement is MOST accurate concerning group 17 (7A) on the periodic table?

⑧ they are extremely reactive; Be they gain electrons instead of give it away

Quiz Date: Sep 19, 2019

Key A				
1	A	1	47	A 1
2	C	1	48	D 1
3	D	1	49	A 1
4	D	1	50	D 1
5	D	1		
6	B	1		
7	A	1		
8	C	1		
9	D	1		
10	B	1		
11	B	1		
12	A	1		
13	A	1		
14	B	1		
15	C	1		
16	B	1		
17	D	1		
18	B	1		
19	C	1		
20	C	1		
21	A	1		
22	A	1		
23	B	1		
24	C	1		
25	D	1		
26	D	1		
27	B	1		
28	D	1		
29	D	1		
30	B	1		
31	B	1		
32	D	1		
33	D	1		
34	C	1		
35	D	1		
36	D	1		
37	A	1		
38	B	1		
39	D	1		
40	B	1		
41	B	1		
42	B	1		
43	C	1		
44	A	1		
45	A	1		
46	C	1		
47	A	1		
48	D	1		
49	A	1		
50	D	1		