Ionizatio	on Energy W	orksheet – Ac	cel. Chen	nistry	Name:			Pd:
Use the p	periodic table t	to answer the fo	ollowing qu	lestions:				
1. Which	element has the	e largest first ioniza	ation energy?	?				
2. Which	element has the	smallest first ioniz	zation energy	y?				
3. Does f	first ionization en	ergy generally inc	rease or dec	rease acros	s (L to R) a peri	od? _		
4. Does f	first ionization en	ergy generally inc	rease or dec	rease down	a group?			
5. Circle	the member of e	ach pair below that	at has the hi ç	gher first ior	nization energy.			
	a. Mg	Na	b. S		0	C.	Ca	Ва
6. Circle	the member of e	ach pair below tha	at has the lov	wer first ioni	ization energy.			
	a. Be	Са	b. F	,	I	C.	Na	Si
7. Put th	e following eleme	ents in order of inc	reasing (sr	nallest to la	r aest) first ioniz	ation ene	rav.	
	a. P, Cl, Br		• •		Mg, Li, Ca			
8. Put th		ents in order of de			0	zation ene	ergy.	
	a. B, F, Al				, Sb, In, Pb			
_								
•		ok to answer th				idency to	or each tre	nd across a
•	U .	191-193 Chemistr	•		J.			
	Tren		y DUUK		Why?			
					<u> </u>			
Period								
Group								
2. For ea	ach of the followi	ng pairs, circle wh	lich atom has	s the highe i	r first ionization e	energy.		
a.	He Kr	b. Ge	e C	С	. CI I		d. Na	AI
	ach of the followir t first ionization e	ng pairs, circle whi energy.	ch atom form	ns a positive	ion <i>more</i> easily	/, meaning	g which ato	m has the
a.	Sr Sb	b. N	As	С	. Na K	,	d. Cl	AI
4. Put th	e following eleme	ents in order of inc	creasing (sm	nallest to la	r gest) first ioniz	ation ene	rqv.	
	•				b. Cs, Tl, K		•••	
		ng elements, state						
		ill be gained or los						
	Gains or	Number of			Gains or		nber of	
Element	loses electrons?	electrons gained or lost	Charge?	Element	loses electrons?		ctrons d or lost	Charge?
К	Loses	1	+1	Mg				
Br			+	AI				
0				1				
Ar				N				
7 11				1 4				l

Extension Problem:

6. Explain why it takes more energy to remove the second electron from a lithium atom than it does to remove the fourth electron from a carbon atom.

El	ectror	negativit	y Worksheet	- Accel. Che	mistry	Name:				Pd:
Us	e the p	periodic t	able to answer	the following	questions	5:				
1.	Which	n element h	has the largest el	ectronegativity?						
2.	Which	n element h	has the smallest e	electronegativity	/?					
3.	Does	electroneg	ativity generally i	ncrease or decr	rease acro	ss (L to R) a pe	riod?			
4.	Does	electroneg	ativity generally i	ncrease or decr	rease dow	n a group?				
5.	Circle	the memb	er of each pair b	elow that has th	e higher e	electronegativity	·			
		d. Mg	Na	e.	Na	AI	f	. Cl		I
3.	Circle	the memb	er of each pair b	elow that has th	e lower el	ectronegativity.				
		a. Se	Br	b.	Са	Ba		c. S		0
7.	Put the	e following	elements in ord	er of increasing	g (smalles	t to largest) ele	ectronegat	ivity.		
		a. P, Cl	, Br		_ b	o. Mg, Li, Ca				
3.	Put th	e following	elements in ord	er of decreasin g	g (largest	to smallest) el	ectronega	tivity.		
		a. B, F,	AI		b	b. Sb, In, Pb				
pe	iod an	nd down a	d book to answ group. Then ex	plain why we so			tendency	for ea	ch trend	across
pe	iod an	nd down a onegativity		plain why we so			tendency	for ea	ch trend	across
ре 7.	iod an	nd down a onegativity	group. Then ex / (pg. 194 Chemi	plain why we so		end.	tendency	for ea	ch trend	across
pe 7. F	riod an Electro	nd down a onegativity	group. Then ex / (pg. 194 Chemi	plain why we so		end.	tendency	for ea	ch trend	across
De 7. F	Fiod an Electro Period Group	nd down a ronegativity Ti	group. Then ex / (pg. 194 Chemi	plain why we so	ee each tr	why?		for ea	ch trend	across
De 7. F	Fiod an Electro Period Group	nd down a conegativity Tr	group. Then ex (pg. 194 Chemis rend	plain why we so	ee each tr	why?			Ga	across
ре 7. Г (3.	Fiod an Electro Period Group For ea a. Mo	nd down a conegativity Tr Tr ach of the f	group. Then ex r (pg. 194 Chemis rend	plain why we se stry Book) rcle which atom b. Na	has the h	end. Why? igher electrone	gativity. c.			across
ре 7. Г (3.	Fiod an Electro Period Group For ea a. Mo	nd down a conegativity Tr Tr ach of the f g ach of the f	group. Then ex (pg. 194 Chemis rend	plain why we se stry Book) rcle which atom b. Na	has the h	end. Why? igher electrone	gativity. c.	В		Si
De 7. F (3.	For ea a. Be	nd down a conegativity Tr Tr ach of the f g ach of the f	group. Then ex r (pg. 194 Chemis rend following pairs, ci Na following pairs, ci Ca	plain why we se stry Book) rcle which atom b. Na rcle which atom b. F	has the h has the h K has the s	why? Why? Migher electrone	gativity. c. egativity. c.	B		
De 7. F (3.	For ea a. Be	nd down a conegativity Tr Tr ach of the f g ach of the f e te following	group. Then ex (pg. 194 Chemis rend following pairs, ci Na following pairs, ci Ca (elements in orde	plain why we se stry Book) rcle which atom b. Na rcle which atom b. F er of increasing	has the h has the h has the s l g (smalles	rend. Why? Migher electrone maller electron t to largest) electron	gativity. c. egativity. c.	B		
) 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	For ea a. Me Period	ach of the f ach of the f	group. Then ex r (pg. 194 Chemis rend following pairs, ci Na following pairs, ci Ca g elements in orde	plain why we se stry Book) rcle which atom b. Na rcle which atom b. F er of increasing	has the h has the h k has the s l g (smalles b	why? Why? Migher electrone Maller electrone t to largest) electron	gativity. C. egativity. c. ectronegat	B Na ivity.		
5 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.	For ea a. Me Period	ach of the f ach of the f	group. Then ex r (pg. 194 Chemis rend following pairs, ci Na following pairs, ci Ca g elements in orde Gr, Rb	plain why we se stry Book) rcle which atom b. Na rcle which atom b. F er of increasing er of decreasin g	has the <i>h</i> has the <i>h</i> has the <i>s</i> (smalles (smalles (largest	why? Why? igher electrone maller electrone t to largest) ele b. In, Al, Sb to smallest) el	gativity. C. egativity. c. ectronegat	B Na ivity.		
pe 7. F (8. 9.	For ea a. Mo Put the	ach of the f ach of the f ach of the f ach of the f ach of the f a. Ca, S a following a. Se, F	group. Then ex r (pg. 194 Chemis rend following pairs, ci Na following pairs, ci Ca g elements in orde Gr, Rb	plain why we se stry Book) rcle which atom b. Na rcle which atom b. F er of increasing er of decreasin	has the <i>h</i> has the <i>h</i> has the <i>s</i> (smalles (smalles d (largest	why? Why? igher electrone maller electrone to largest) electron to smallest) electron to smallest) electron Mg, Na, S	gativity. c. egativity. c. ectronegat ectronega	B Na ivity. tivity.	Ga	