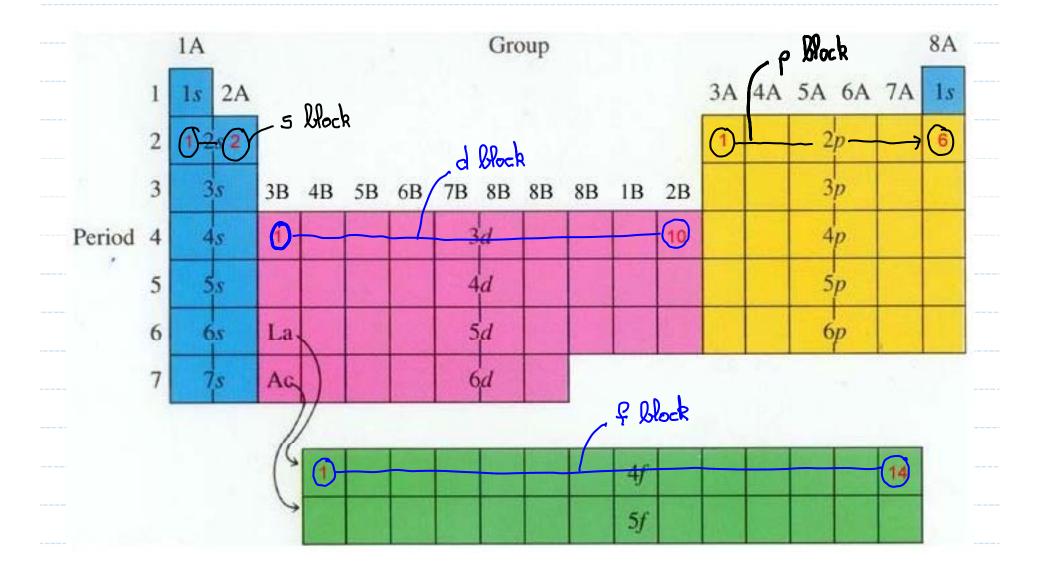
	Sat Oct 1 Rab 2 Sum Oct 2 Eagn Review 188 135 5:00-4:45p Tue Oct 4 Exam in Class		Cla	ss Annour	ncements	
	·	Sat	Oct 1	Lat 2		
Tue Oct 4 Exam 1 in Class	Tue Oct 4 Exam 1in Class	Swn	Oct 2	Eagy	Review 138 13	5 3:00-4:45p
		Tue	Oct 4	EKAN 1	in Class	· .

2.7 Electronic Configuration and Position in the Periodic Table

				Electron Configuration	Noble Gas	Valence	5	
	1 <i>A</i>	Li	3	1s ² 2s ¹	[He]2s1	1	4	
	2A	Be	4	1s ² 2s ²	[He]2s²	2		
	3 <i>A</i>	В	5	1s ² 2s ² 2p ¹	[He]2s²2p¹	3		
	4A	C	6	1s ² 2s ² 2p ²	[He]2s²2p²	4		GROUP 1A
	5 <i>A</i>	Ν	7	1s ² 2s ² 2p ³	[He]2s²2p³	5	$\neg \mid \ \mid$	(Charge +1)
	6A	0	8	1s ² 2s ² 2p ⁴	[He]2s²2p⁴	6	$\neg \mid \cdot \mid$	→ GROUP 2A
	7A	F	9	1s ² 2s ² 2p ⁵	[He]2s ² 2p ⁵	7	-	
	84	Ne	10	1s ² 2s ² 2p ⁶	[He]2s²2p ⁶	8		(Charge, +2)
				32		<u>.</u>	_	
	1 <i>A</i>	Na	11	1s ² 2s ² 2p ⁶ 3s ¹	[Ne] 3s1	1	-	
	2A	Mg	12	<mark>1s²2s²2p</mark> ⁶ 3s²	[Ne] 3s²	2	7	→ Group 7A
	3 <i>A</i>	Al	13	1s ² 2s ² 2p ⁶ 3s ² 3p ¹	[Ne] 3s²3p¹	3		→ Group 7A (Charge -1)
	4A	Si	14	1s ² 2s ² 2p ⁶ 3s ² 3p ²	[Ne] 3s ² 3p ²	4		07
	5A	P	15	1s ² 2s ² 2p ⁶ 3s ² 3p ³	[Ne] 3s ² 3p ³	5		
	6A	s	16	1s ² 2s ² 2p ⁶ 3s ² 3p ⁴	[Ne] 3s ² 3p ⁴	6		
	7A	CI	17	1s ² 2s ² 2p ⁶ 3s ² 3p ⁵	[Ne] 3s ² 3p ⁵	7	T	
}	84	Ar	18	1s ² 2s ² 2p ⁶ 3s ² 3p ⁶	[Ne] 3s ² 3p ⁶	8		

2.7 Electronic Configuration and Periodic Blocks



2.8 What Is a Periodic Property See hink on class web site. Α **Atomic Size** 3 10 9 Li B N F Be Ne 0 Lithium Beryllium Neon Boron Carbon Nitrogen Oxygen Fluorine 6.941 9.0122 10.811 12.011 14.0067 15.9994 18,9984 20.1797 11 Na Smallest. Decreasing size Sodium 22,9898 America size Largest 0 __ d __ e - & Outernost electron Slide - 4

A Atomic Size

Arrange the following elements in order of increasing size, by ranking them 1 (smallest) to 5 (largest).

<u>5</u> Mg

<u>2</u> c

3 Si

He

4 Al

Helium 4.0026 6 C 8 3 5 10 Li В N Be Ne F Lithium Beryllium Boron Carbon Nitrogen Oxygen Fluorine Neon 9.0122 12.011 14.0067 20.1797 6.941 10.811 15.9994 18,9984 12 13 14 11 16 17 18 15 Mg Al Na Si P S Cl Ar Sodium Magnesium Aluminum Phosphorus Sulfur Chlorine Silicon Argon 22.9898 24.3050 26.9815 28.0855 30.9738 32.066 35.4527 39.948 19 20 31 32 35 36 33 34 K Kr Ca Ga Ge Às Se \mathbf{Br} Potassium Calcium Gallium Germanium Arsenic Selenium Bromine Krypton 39.0983 40.078 69,723 72.61 74.9216 78.96 79.904 83,80 37 38 49 50 51 52 53 54 Rb Sr Sn Sb Te T Xe In

Smallest

Mg I C

OP J C

Which element did you rank as 2?

Tin

118.710

Indium

114.82

a) O

Strontium

87.62

Rubidium

85.4678

b) Mg

Antimony

121.757

Tellurium

127.60

d) Si

e) Al



Iodine

126.9045



Xenon

131.29

B Ionization Energy

2	3 Li Lithium 6.941	ium Beryllium	5 B Boron 10.811	6 C Carbon 12.011	7 N Nitrogen 14.0067	8 O Oxygen 15.9994	9 F Fluorine 18.9984	10 Ne Neon 20.1797
3	11 Na Sodium 22.9898	a . The an	mount a lost elect	Ron from	y Require	ed to rem m or ion	nove the	

How easy is it to memore the outermost electron? ... Depends on how strongly it is held ... How is this related to size?

Amcreasing Jonization Energy

(Decreasing Size) Jargest Jonization Energy

Decreasing (Increasing Size)

Size)

Energy.

Shallest Jonization Energy

B Ionization Energy

Arrange the following elements in order of increasing ionization energy, by ranking them 1 (smallest) to 4 (largest).

 4 C
 1 Ga
 2 Al
 3 Si

 He
 1 He
 <td

49

In

Indium

114.82

Helium 4.0026 10 $\tilde{\mathbf{C}}$ Li Be В N O Ne F Carbon Lithium Beryllium Neon Boron Nitrogen Oxygen Fluorine 6.941 9.0122 10.811 12.011 14.0067 15.9994 18.9984 20.1797 14 13 11 16 18 12 15 17 Al Si P Na Mg S Cl Ar Magnesium Sodium Aluminum Silicon Phosphorus Sulfur Chlorine Argon 26.9815 28,0855 22,9898 24.3050 30,9738 32,066 35,4527 39.948 31 32 34 36 19 20 33 35 K Kr Ca Ga Ge As Se Br Gallium Potassium Calcium Germanium Arsenic Selenium Bromine Krypton 39.0983 40.078 69.723 72.61 74.9216 78.96 79.904 83.80

Largest IE

Ga J(C)

al **J** (5)

Which element did you rank as 3?

50

Sn

Tin

118.710

a) C

37

Rb

Rubidium

85.4678

b) Ga

51

Sb

Antimony

121.757

52

Te

Tellurium

127.60

53

Iodine

126,9045

54

Xe

Xenon

131.29

c) Al

38

Sr

Strontium

87.62

(d) Si)



C Electronegativity

 2	Li Lithium 6.941	4 Be Beryllium 9.0122	5 B Boron 10.811	6 C Carbon 12.011	7 N Nitrogen 14.0067	8 O Oxygen 15.9994	9 F Fluorine 18.9984	þ	
3	Na Sodium 22.9898	MINGE CON COUNTY							vaconcy

Where would am electron prefer to reside?...
How is this related to size?

Ancreasing Rectronegativity

(Increasing attractiveness Most electronegative

Decreasing Rectronegativity

(Decreasing altractiveness)

Least Rectronegative

Electronegativity

a) Ca

b) S d) As

c) P d) A

Which of the above has the greatest electronegativity?



							He Helium 4.0026	
3 Li Lithium 6.941	Be Beryllium 9.0122	5 B Boron 10.811	6 C Carbon 12.011	7 N Nitrogen 14.0067	8 O Oxygen 15.9994	9 F Fluorine 18.9984	10 Ne Neon 20.1797	
Na Sodium 22.9898	Mg Mg Magnesium 24.3050	13 Al Aluminum 26.9815	14 Si Silicon 28.0855	Phosphorus 30.9738	16 S Sumur 32.066	17 Cl Chlorine 35.4527	18 Ar Argon 39.948	
19 K Potassium 39.0983	20 Ca Calcium 40.078	31 Ga Gallium 69.723	32 Ge Germanium 72.61	33 As Arsenic 74.9216	34 Se Selenium 78.96	35 Br Bromine 79.904	36 Kr Krypton 83.80	
37 Rb Rubidium 85.4678	Sr Strontium 87.62	49 In Indium 114.82	50 Sn Tin 118.710	51 Sb Antimony 121.757	Te Tellurium 127.60	53 I Iodine 126.9045	54 Xe Xenon 131.29	