

Trends on the Periodic Table (# 2, 3, 6, and 7) name: _____

#2 Atomic Size or Atomic Radius (table S atomic size measured in pico-meters)
Fill in table A atomic size across period 2, then for groups 2 and 18 below.

atom	Li	Be	B	C	N	O	F	Ne
Radius in pm								

The Period TREND for atomic size/atomic radius is

The Group TREND for atomic size/atomic radius is

Why do atoms get smaller going across a period?

GROUP 2 atom	radius in pm
Be	
Mg	
Ca	
Sr	
Ba	
Ra	

GROUP 17 atom	radius in pm
F	
Cl	
Br	
I	
At	

Trend #3: Nuclear Charge, or charge of nucleus of atoms

List the net nuclear charge for Period 2 atoms below. Then do the same for any 2 groups that you choose. Label WHAT GROUP you use, then add symbols and their values.

atom	Li	Be	B	C	N	O	F	Ne
Net Nuclear Charge								

GROUP	Net Nuclear Charge

GROUP	Net Nuclear Charge

Describe the TREND for Net Nuclear Charge going across a period.

Describe the TREND for Net Nuclear Charge going down any group.

Trend #6 Electronegativity

Define Electronegativity (EN): _____

_____.

Look at Table S, which element has the highest EN value? _____ What is it? _____

Define RELATIVE SCALE: _____

_____.

Fill in this abbreviated Periodic Table, put the EN value for each listed element below its symbol. Fill in the GROUP NUMBERS ACROSS THE TOP SET OF EMPTY BOXES

GROUP	GROUP	GROUP	GROUP	GROUP	GROUP	GROUP	GROUP
H	Leave empty						He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	P	S	Cl	Ar
K	Ca	Ga	Ge	As	Se	Br	Kr
Rb	Sr	In	Sn	Sb	Te	I	
Cs	Ba	Tl	Pb	Bi			

What is the EN TREND going down a group? _____

What is the EN TREND going across a period? _____

Why do the listed NOBLE GASES have no Electronegativity value?

Which elements of each pair have the higher EN values? (circle higher EN value)

Cl or Ca

Sr or Ge

Br or Cs

What is the TREND FOR EN for the whole periodic table?

Explain how Xe and Rn as noble gases can have an EN value?

Explain why group 1 atoms have the EN values that they do.
How do they compare to the EN values of group 17?

Trend #7: 1st Ionization Energy

Define 1st Ionization Energy:

The unit is _____

Fill in this chart with the 1st Ionization Energy levels for each atom in this chart.

GROUP 1	GROUP 2	GROUP 13	GROUP 14	GROUP 15	GROUP 16	GROUP 17	GROUP 18
H	Leave empty						He
Li	Be	B	C	N	O	F	Ne
Na	Mg	Al	Si	P	S	Cl	Ar
K	Ca	Ga	Ge	As	Se	Br	Kr
Rb	Sr	In	Sn	Sb	Te	I	Xe
Cs	Ba	Tl	Pb	Bi	Po	At	Rn

Describe the GROUP TREND for 1st Ionization Energy.

Define the PERIOD TREND for 1st Ionization Energy.

Where are the highest and lowest 1st Ionization Energy values? Why?

If you ever forget a TREND, how will you deal with this on the REGENTS?