

Name: \_\_\_\_\_ Per: \_\_\_\_\_

**Periodic Table Trends Worksheet**

For each of the following, circle or highlight the correct element that matches the description. Explain your choice for last ones in the space provided.

<i>Elements</i>			<i>Description</i>
Sulfur	Chlorine	Argon	member of the halogen family
Vanadium	Niobium	Tantalum	largest atomic number
Tellurium	Iodine	Xenon	member of noble gases
Silicon	Germanium	Tin	4 energy levels
Lithium	Beryllium	Boron	member of alkali metals
Arsenic	Selenium	Bromine	6 valence electrons
Hydrogen	Lithium	Sodium	nonmetal
Mercury	Thallium	Lead	member of transition metals
Sodium	Magnesium	Aluminum	e- configuration ending in $p^1$
Lead	Bismuth	Polonium	metalloid
Boron	Nitrogen	Carbon	gas at room temperature
Calcium	Scandium	Titanium	e- configuration ending in $d^2$
Mercury	Chlorine	Nitrogen	liquid at room temperature
Potassium	Calcium	Scandium	largest atomic mass
Lithium	Silicon	Sulfur	metal
Calcium	Titanium	Helium	member of alkaline earth metals
Aluminum	Silicon	Phosphorus	smallest atomic radius
<b>Explain:</b>			
Nitrogen	Phosphorus	Arsenic	smallest electronegativity
<b>Explain:</b>			
Gallium	Aluminum	Silicon	largest atomic radius
<b>Explain:</b>			
Nitrogen	Phosphorus	Arsenic	smallest ionization energy
<b>Explain:</b>			
Gallium	Aluminum	Silicon	largest ionization energy
<b>Explain:</b>			
Aluminum	Silicon	Phosphorus	greatest electronegativity
<b>Explain:</b>			

**Answer the following questions.**

- 1) What is atomic radius?
- 2) Which of the following elements has the largest atomic radius: Li, O, C or F? **Justify your answer.**
- 3) Which of the following elements has the smallest atomic radius: Mg, Ca, Sr or Ba? **Justify your answer.**
- 4) What is ionization energy?
- 5) Which of the following elements has the highest ionization energy: Li, O, C or F? **Justify your answer.**
- 6) Which of the following elements has the lowest ionization energy: Mg, Ca, Sr or Ba? **Justify your answer.**
- 7) What is electronegativity?
- 8) Why aren't noble gases included in the trend for electronegativity?
- 9) Which of the following elements has the highest electronegativity: Li, O, C or F? **Justify your answer.**
- 10) Which of the following elements has the lowest electronegativity: Mg, Ca, Sr or Ba? **Justify your answer.**