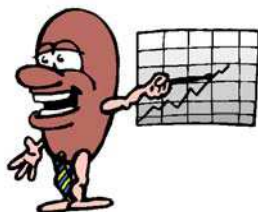


What are the Trends in the Periodic Table?

Below is a portion of the periodic table. In the answer spaces provided in the table, fill in the [1] atomic number, [2] atomic radius, [3] number of shells, and [4] number of outer shell electrons as indicated in the key below. Then, answer the questions that follow.



KEY

Symbol	
[1] Atomic Number _____
[2] Atomic Radius _____
[3] Number of Shells _____
[4] Number of Outer Electrons _____

H [1] _____ [2] _____ [3] _____ [4] _____							He [1] _____ [2] _____ [3] _____ [4] _____
Li [1] _____ [2] _____ [3] _____ [4] _____	Be [1] _____ [2] _____ [3] _____ [4] _____	B [1] _____ [2] _____ [3] _____ [4] _____	C [1] _____ [2] _____ [3] _____ [4] _____	N [1] _____ [2] _____ [3] _____ [4] _____	O [1] _____ [2] _____ [3] _____ [4] _____	F [1] _____ [2] _____ [3] _____ [4] _____	Ne [1] _____ [2] _____ [3] _____ [4] _____
Na [1] _____ [2] _____ [3] _____ [4] _____	Mg [1] _____ [2] _____ [3] _____ [4] _____	Al [1] _____ [2] _____ [3] _____ [4] _____	Si [1] _____ [2] _____ [3] _____ [4] _____	P [1] _____ [2] _____ [3] _____ [4] _____	S [1] _____ [2] _____ [3] _____ [4] _____	Cl [1] _____ [2] _____ [3] _____ [4] _____	Ar [1] _____ [2] _____ [3] _____ [4] _____
K [1] _____ [2] _____ [3] _____ [4] _____	Ca [1] _____ [2] _____ [3] _____ [4] _____						

Answer the questions below by referring to the data on the table you filled in on the first page.

1. As you go from left to right across a row of the *Periodic Table*:
 - a. What happens to the atomic number and the number of protons? _____
 - b. As a result, what happens to the pull on the electrons? _____
 - c. Therefore what happens to the atomic radius? _____
 - d. Finally, what does this mean about the likelihood of losing electrons? Do the elements become more or less metallic? _____
2. As you go from top to bottom down a column of the *Periodic Table*:
 - a. What happens to the number of shells? _____
 - b. As a result, what happens to the atomic radius? _____
 - c. Therefore, what happens to the pull on the electrons? _____
 - d. Finally, what does this mean about the likelihood of losing electrons? Do the elements become more or less metallic? _____
3. Based on the analysis above, where do metals tend to be located on the *Periodic Table*? _____

4. Based on the analysis above, where do nonmetals tend to be located on the *Periodic Table*? _____

5. What do the elements at the extreme right of the *Periodic Table* have in common? What affect does this have on the chemical properties? _____

6. Where on the *Periodic Table*, approximately, is the border between the metals and nonmetals (the metalloids)? _____
