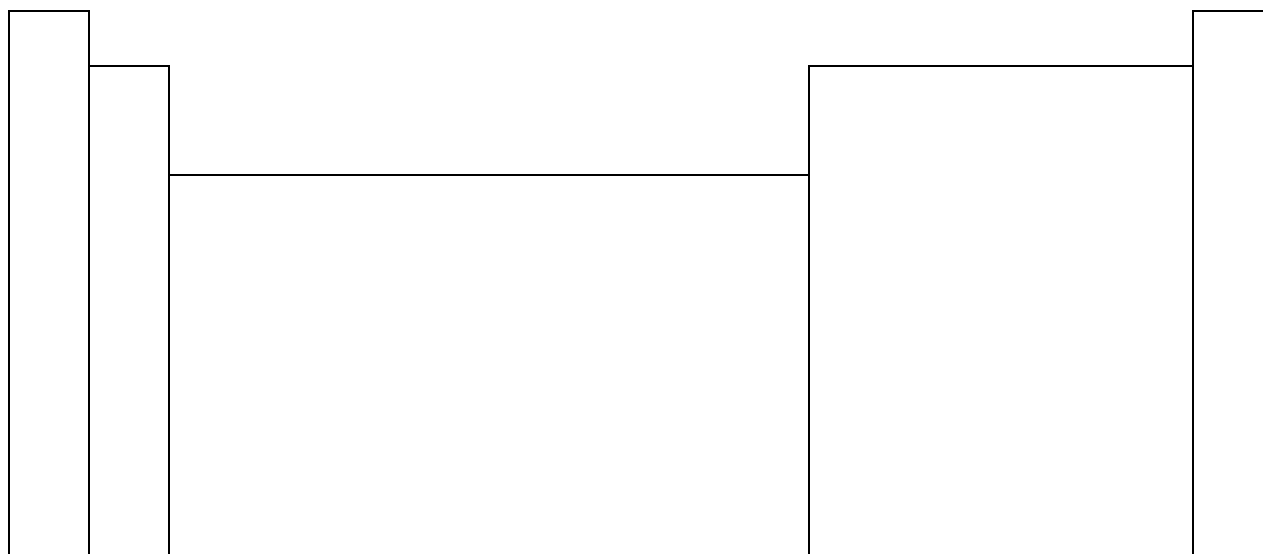


Go to the first website, <http://www.wwnorton.com/college/chemistry/gilbert/tutorials/ch6.htm>, and select the green 'view tutorial' option for **Section 6.5 Periodic Table**. Use the tutorial to answer the following prompts.

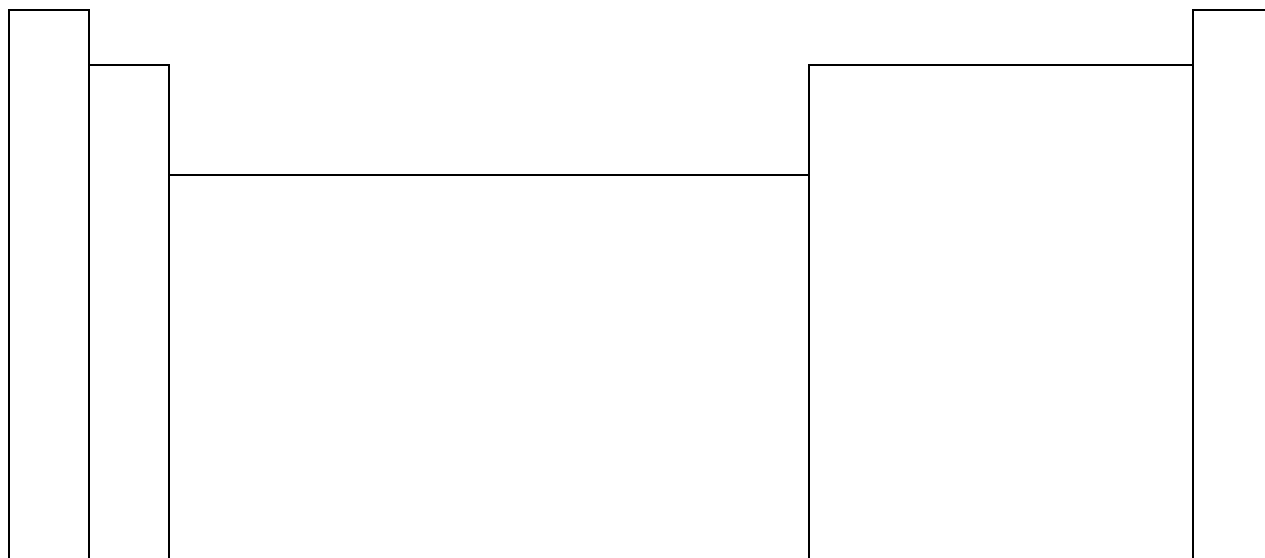
- [1] Who designed the periodic table?
- [2] How was the original periodic table organized differently from the modern periodic table?
- [3] Review atomic number, atomic mass number, and how an elements mass number is determined.
- [4] Groups are _____ columns on the periodic table and are comprised of elements with _____ chemical properties.

Click on a red label on one of the groups to change the labeling to the IA, IIA, format.

- [5] Rollover the 1A label. What is the name of group IA? _____
- [6] Rollover the 1IA label. What is the name of group IIA? _____
- [7] Rollover the 1IIA label. What is the name of group IIIA? _____
- [8] Rollover the VIIB label. What is the name of group VIIB? _____
- [9] Rollover the VIIIB label. What is the name of group VIIIB? _____
- [10] _____ the table is divided into periods. The period number corresponds to the _____ of the outer _____.
- [11] Use the periodic table outline below to show where metals, nonmetals, and metalloids are found on the periodic table.

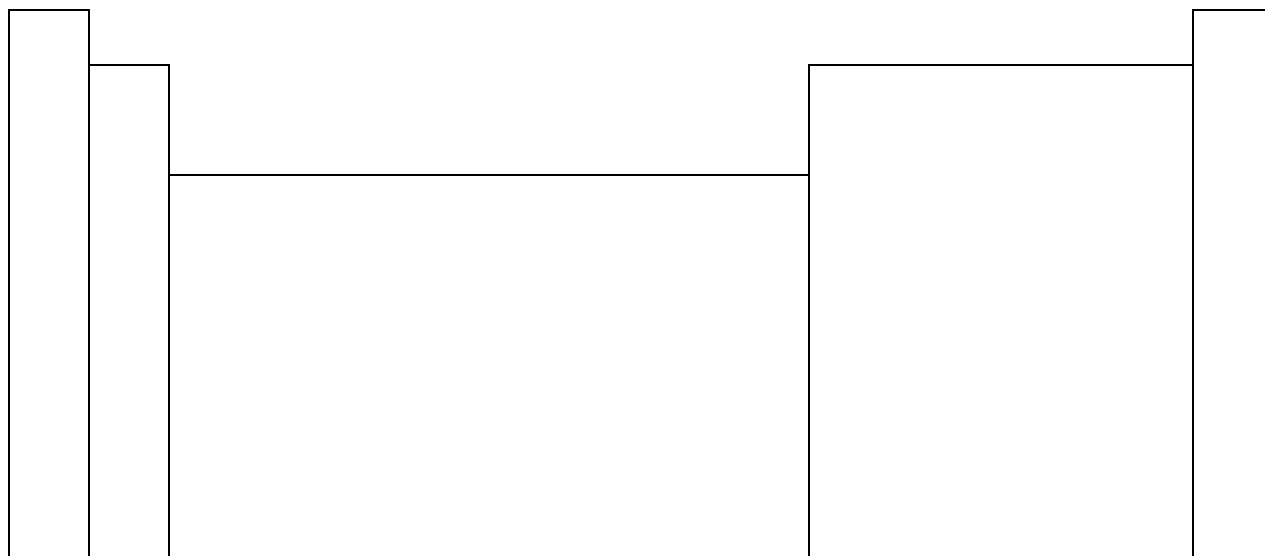


[12] Use the outline of the periodic table below to label the areas of the periodic table based on the atomic subshell that contains the outermost (valence) electrons.



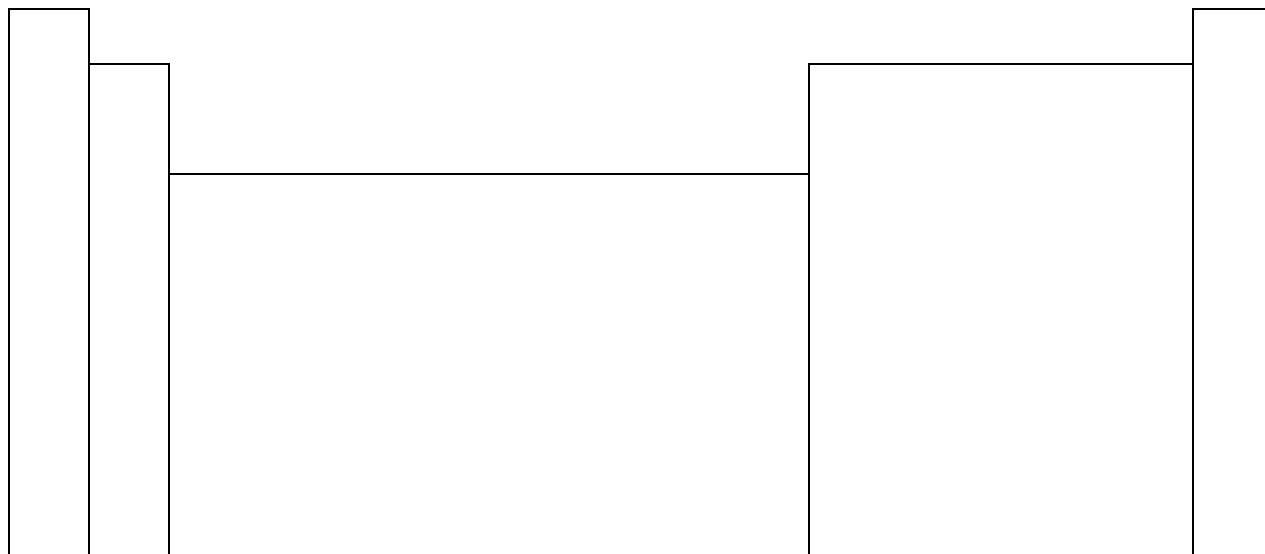
[13] What is electronegativity?

[14] Use the periodic table outline below to color in the areas that are more electronegative. Also, draw arrows in the directions of increasing electronegativity.



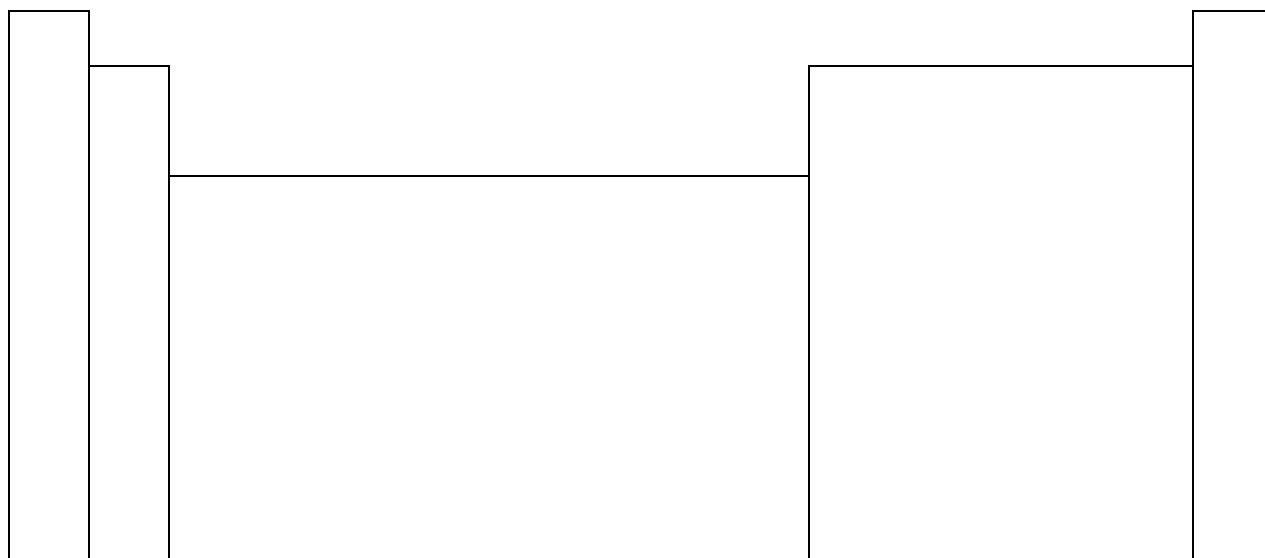
[15] Why does electronegativity follow this trend? (Hint: think about the number of protons in each atom and the number of electrons in each subshell & how the charges of these particles interact.)

[16] Use the periodic table outline below to color in the trend for atomic radius. Also, draw an arrow in the direction of increasing atomic radius.



[17] Why does atomic radius follow this trend? (Hint: think about the number of protons in each atom and the number of electrons in each subshell & how the charges of these particles interact.)

[18] Ionization energy is the amount of energy required to remove one electron from the outermost shell from an atom. First ionization energy refers to removal of the first electron, this is different from the amount of energy required to remove a second or third electron and so on. Based on what you know about electronegativity, draw your prediction for what areas of the periodic table have higher first ionization energies and which areas have lower first ionization energies. Draw in arrows to illustrate the trend.



[19] Answer Questions 1-4 by clicking on the answer of your choice. Write your answers here:

#1 -

#2 -

#3 -

#4 -

Now go to: <http://www.webelements.com/webelements/elements/text/Tc/eneg.html>, website #2 for this activity. Scroll down to the periodic table that shows electronegativity trends. Again, consider why the pattern is the way it is. Explore the five different representations: scatter plot, shaded table, ball chart, thermometer, and bar chart.

[20] Which representation makes the most sense to you? Why?

Now go to:

<http://www.chem.iastate.edu/group/Greenbowe/sections/projectfolder/flashfiles/matters/periodicTbl2.html>, Website #3 for this activity. Make sure you're on the 'atom view'. Try to put the atoms on the periodic table based on their atomic radius. Please don't cheat and just look up the symbols! Instead, use the diagram you made above that shows the trend. Repeat using the 'ion view'.

[21] Why are cations (ions that have a positive charge) smaller than their corresponding neutral atom?

[22] Why are anions (ions that have a negative charge) larger than their corresponding neutral atom?