Trends of Period Table

In this activity, you will graph and analyze actual elemental data in order to understand how elegant the period table is. Through this activity you will become familiar with the trends found in the layer of the period table.

Procedure:

1. Open your Regent Chemistry reference tables to Table S.
2. Open excel on one of the computers in the back of the room.
3. Make a table consisting of the following:
   1. Elements
   2. Atomic Number
   3. Radius
   4. Ionization Energy
   5. Electronegativity
4. Fill in the data from Table S for the **first 36 elements.**
5. Create a line graph (BY HAND) for each of the following:
   1. Atomic Radius (y) vs. Atomic Number (x)
   2. Ionization Energy (y) vs. Atomic Number (x)
   3. Electronegativity (y) vs. Atomic Number (x)
6. Before you print, be sure that:
   1. Each graph has a descriptive title as well as the names in your lab group.
   2. Each graph contains labeled axes (with units, if appropriate)
   3. Each graph takes up an entire page.

**Analysis of Graphs**

1. As you go from element 3, Lithium, to element 10, Neon, what do you notice about the **atomic radius?**
2. Compare the **atomic radius** of elements 1, 3, 11, and 19.
3. Fill in the general trend of **atomic radius**.

Across the period

Down the group

1. As you go from element 3, Lithium, to element 10, Neon, what do you notice about the **Ionization Energy?**
2. Compare the **Ionization Energy** of elements 1, 3, 11, and 19.
3. Fill in the general trend of **Ionization Energy**.

Across the period

Down the group

1. As you go from element 3, Lithium, to element 10, Neon, what do you notice about the **electronegativity?**
2. Compare the **electronegativity** of elements 1, 3, 11, and 19.
3. Fill in the general trend of **electronegativity**.

Across the period

Down the group