

# Periodic Trends Webquest

## Part I.

1. Go to [www.chemicool.com](http://www.chemicool.com) . Click on the following elements and fill in the chart provided.
2. Using the information from the first set of elements, predict what you think the second set might be. Don't cheat and look!!! Your predictions won't be graded!
3. Then answer the questions that follow.

**Data Table for Periodic Trends Webquest**

<b>Element</b>	<b>Atomic Radius</b>	<b>Ionization Energy</b>	<b>Electronegativity</b>
Lithium			
Beryllium			
Boron			
Sodium			
Magnesium			
Aluminum			
<b>Your Predictions</b>			
Carbon			
Silicon			
Nitrogen			
Phosphorus			

### **Atomic Radius Questions:**

1. What appears to be the trend in atomic radius as you move from left to right in a row?
2. What appears to be the trend in atomic radius as you move down a column?
3. Predict the change in atomic radius of the next elements in a row (C, Si), then check those properties. Do they match your predictions?
4. Check the atomic radius of the next elements in the series (N, P). How do they fit the predicted pattern?
5. Is the pattern of atomic radius always true or generally true?

### **Ionization Energy Questions:**

1. What appears to be the trend in ionization energy as you move from left to right in a row?
2. What appears to be the trend in ionization energy as you move down a column?
3. Predict the change in ionization energy of the next elements in a row (C, Si), then check those properties. Do they match your predictions?
4. Check the ionization energy of the next elements in the series (N, P). How do they fit the predicted pattern?
5. Is the pattern of ionization energy always true or generally true?

### **Electronegativity Questions:**

1. What appears to be the trend in electronegativity as you move from left to right in a row?
2. What appears to be the trend in electronegativity as you move down a column?
3. Predict the change in electronegativity of the next elements in a row (C, Si), then check those properties. Do they match your predictions?
4. Check the electronegativity of the next elements in the series (N, P). How do they fit the predicted pattern?
5. Is the pattern of electronegativity always true or generally true?

### **Summary Questions:**

1. State the general trend for each property if you move from left to right on the Periodic Table. Now, state the general trend from top to bottom.
2. How do atomic radius, ionization energy, and electronegativity change within a group?
3. How do they change within a period?
4. How are electronegativity and ionization energy related to atomic radius? Why do you think that?