

NAME:

DATE:

TRENDS OF THE PERIODIC TABLE

PURPOSE:

MATERIALS:

PROCEDURE:

Fill in the following data table and plot it on the appropriate graph

Atomic Number	Name	Symbol	Atomic Radius (pm)	Electronegativity	Ionization Energy (KJ/mol)
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
31					
32					
33					
34					
35					
36					

DATA AND OBSERVATIONS:

On the attached Graph Paper, plot three graphs as follows:

- Graph One- Atomic Number (x) vs. Atomic Radius (y)
- Graph Two- Atomic Number (x) vs. Electronegativity (y)
- Graph Three- Atomic Number (x) vs. Ionization Energy (y)

Plot Each GROUP a different color as stated below:

<u>Group 1:</u>	Red	<u>Group 15:</u>	Orange
<u>Group 2:</u>	Blue	<u>Group 16:</u>	Brown
<u>Group 3:</u>	Green	<u>Group 17:</u>	Yellow
<u>Group 4:</u>	Black	<u>Group 18:</u>	Purple

Draw a dotted line parallel to the Y axis between periods 2 & 3 and between periods 3 & 4.

ANALYSIS AND CONCLUSIONS:

1. What are the general trends for atomic number versus radius-
 - a. Within a group-
 - b. Within a period-
2. What are the general trends for atomic number versus electrognegativity-
 - a. Within a group-
 - b. Within a period-
3. What are the general trends for atomic number versus ionization energy-
 - a. Within a group-
 - b. Within a period-
4. What is periodic law? How does this relate to this lab activity?
5. Elements are generally classified in three types- what are they?
6. The elements are given seven different classifications according to their position on the Period Table- what are they?
7. What are the physical properties of metals? What are the physical properties of non- metals? What are the physical properties of metalloids?
8. What are the horizontal rows of the periodic table called? What are the vertical rows of the periodic table called?
9. Define electronegativity, ionization energy and atomic radius?
10. Where can all this information be found?