#### GRAPHING PERIODIC TRENDS

Standard Students know how to use the periodic table to identify trends in ionization energy, electronegativity, and the relative sizes of lone and atoms.

#### PRE-LAR DOSCUSSION

The Periodic Table is arranged according to the Periodic Law. The Periodic Law states that when elements are amonged in order of increasing atomic number. their physical and chemical properties show a periodic pattern. Students can discover these patterns by examining the changes in properties of elements on the Periodic Table. The properties that will be experied in this lesson are: atomic radius AMD that loopation onergy.

#### PRODUCTION OF STREET

To understand periodic trends relating to atomic radius, ignization energy, and electronogativity.

#### PRINCIPLE DURING

Use the information in these tables to complete the graph as described below.

#### PERSONAL TRACE.

Byrmbol	Altonic Radius (Picometers)	First lonization (killsjon/es/mode)	Electronogativity IN-point scale)
-	19	1512	2.1
EA.	1(2)8	520	1.0
1900	11666	496	0.9
100	293	410	0.8
Pile	220	403	0.8
Ca	244	376	0.7

Byrmbort	Attomic Radius (Picometers)	First lontartion (kilojoutes/mole)	Electromegativity (4-point scale)
The .	566	496	0.0
Mile	541	738	1.2
Al	121	978	1.8
266	811	787	1.8
- 20	1007	1012	2.4
1.0	505	1000	2.5
100	1002	1254	3.0
244	11000	1621	

- 1. Define each of these torres: Atomic radius, First tonization Energy, and Electronogativity
- Using unlared pencil or pen, list under the symbol (in this order) the Atomic Radius, First lonigation Energy, and Electronogativity. Use a different color for each property. Example: With all of the Atomic radius values in red, all of the First lonigation energies in green, and all of the Electronogativities in blue. Of course, you can pick any colors that are evaliable, as long as you are consistent.
- Observe the trends in each property as you go down the Alkali metal group, and as you go across Period 3.
- Write out each of the statements written on the opposite side, completing each statement with the observed frend (increase) or decrease).
- 5. There is NO ABSTRACT to write for this activity (2)

# **Graphing Periodic Relationships Lab Answers**

**Annelies Wilder-Smith** 

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