Name:_____
Period:_____
Date:_____

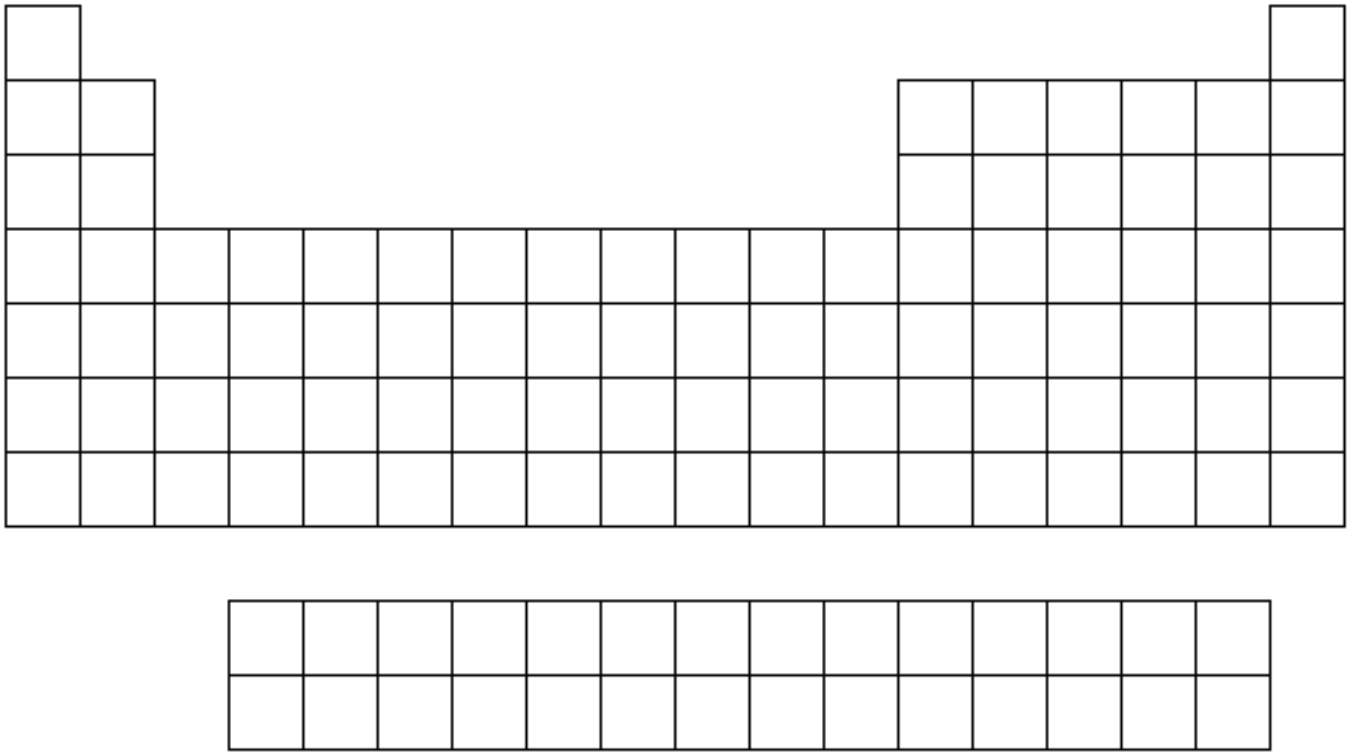
TRENDS OF THE PERIODIC TABLE (Use pages 140-154 in the book to identify GENERAL trends)

Define ***Atomic Radii:*** _____

Discuss Period Trends for Atomic Radii:

Discuss Group Trends for Atomic Radii:

On the empty periodic table below, show visually what the trends are using arrows and labels to show how atomic radii changes across periods and groups.



Name:_____
Period:_____
Date:_____

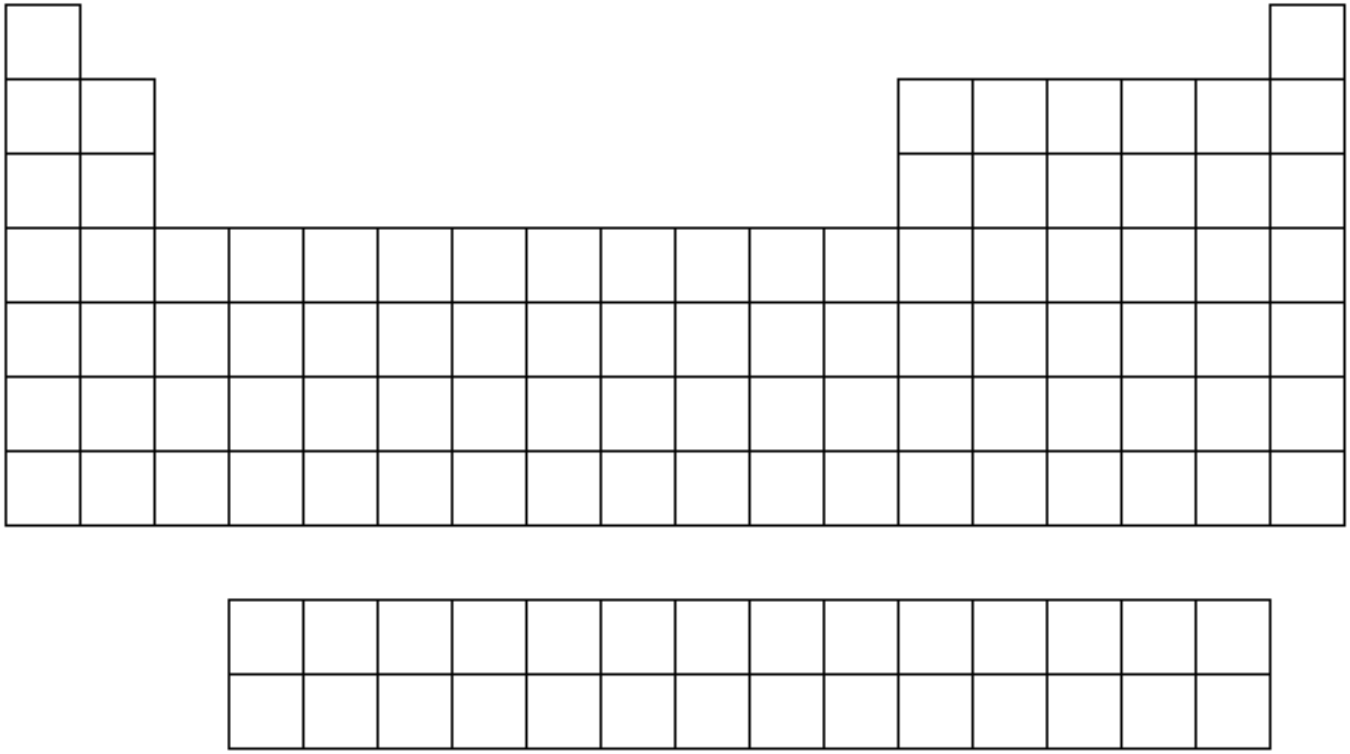
Define ***Ionization Energy:*** _____

_____

Discuss Period Trends for Ionization Energy:

Discuss Group Trends for Ionization Energy:

On the empty periodic table below, show visually what the trends are using arrows and labels to show how ionization energy changes across periods and groups.



Name:_____
Period:_____
Date:_____

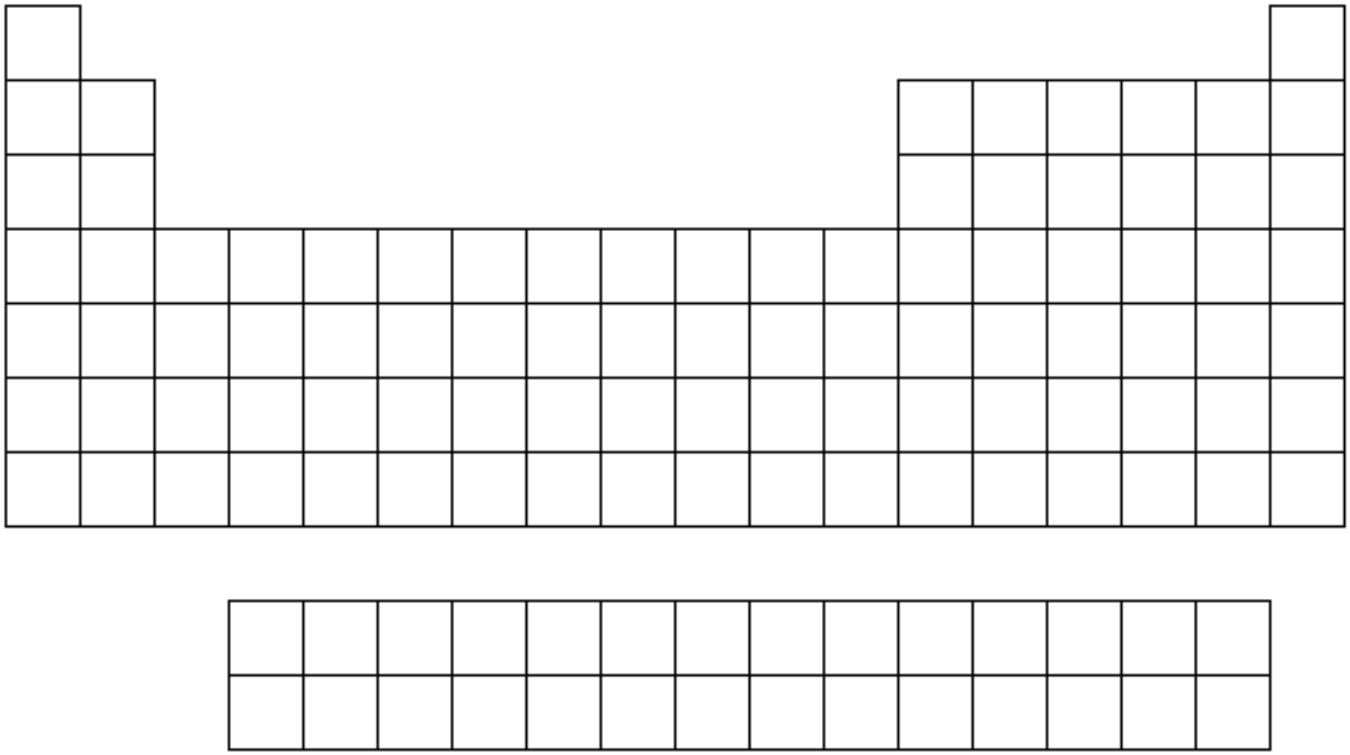
Define ***Electron Affinity:*** _____

_____

Discuss Period Trends for Electron Affinity:

Discuss Group Trends for Electron Affinity:

On the empty periodic table below, show visually what the trends are using arrows and labels to show how electron affinity changes across periods and groups.



Name:_____
Period:_____
Date:_____

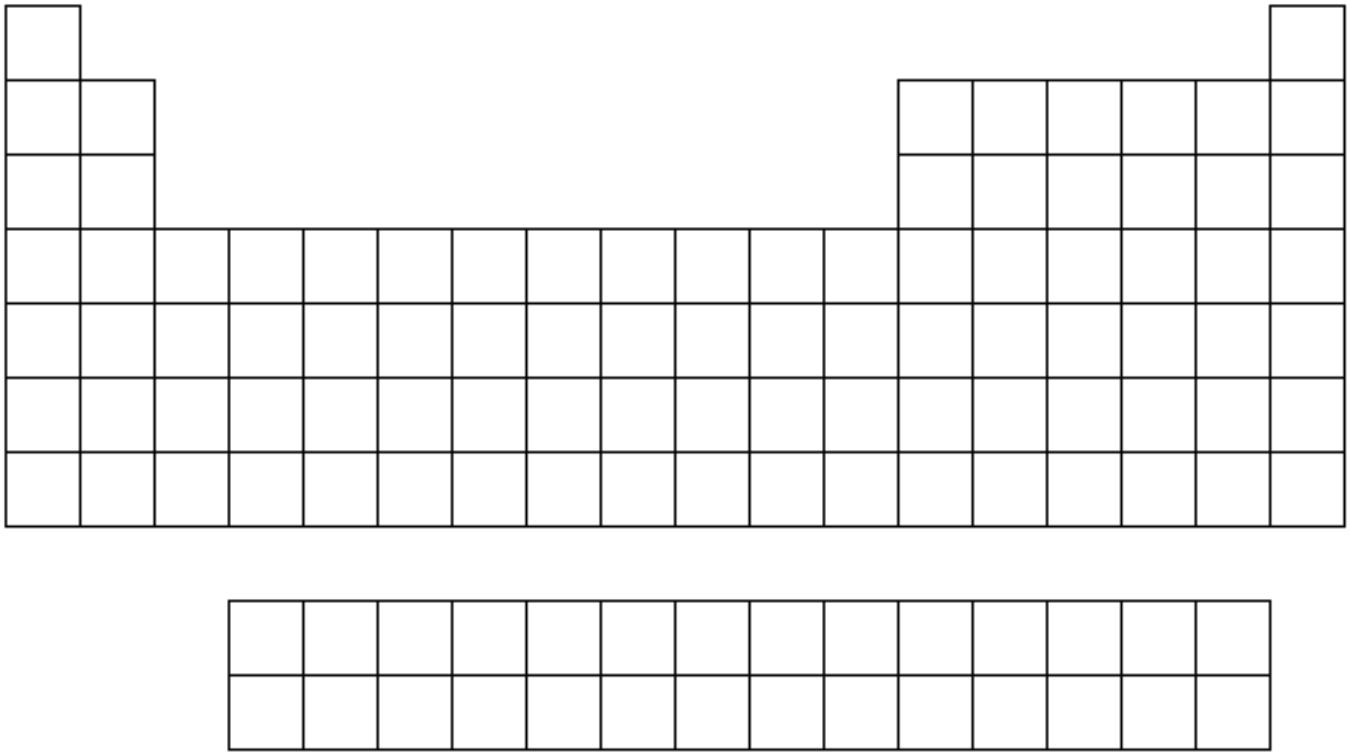
Define ***Ionic Radii:*** _____

_____

Discuss Period Trends for Ionic Radii:

Discuss Group Trends for Ionic Radii:

On the empty periodic table below, show visually what the trends are using arrows and labels to show how ionic radii changes across periods and groups.



Name:_____
Period:_____
Date:_____

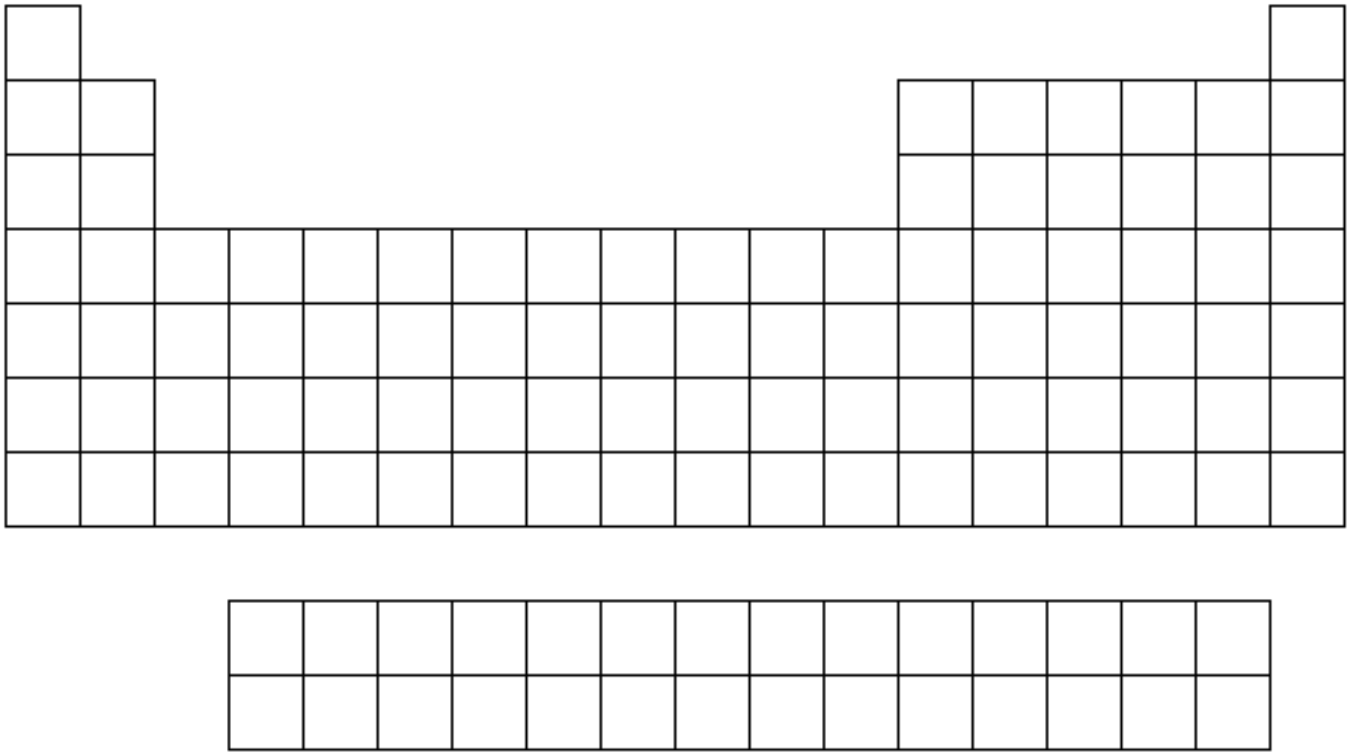
Define ***Electronegativity:*** _____

_____

Discuss Period Trends for Electronegativity:

Discuss Group Trends for Electronegativity:

On the empty periodic table below, show visually what the trends are using arrows and labels to show how electronegativity changes across periods and groups.



Name:_____
Period:_____
Date:_____

Practice Problems

1. Of the elements Li, O, C, and F, identify the one with the largest atomic radius and the one with the smallest radius.

2. Of the elements Br, At, F, I, and Cl, identify the one with the smallest and largest atomic radii.

3. What is ***ionization energy***?

4. What is an ion? What is ionization?

5. What are second, third, etc. ionization energies?

6. Consider the four hypothetical main-group elements W, R, T, and X with the outer electron configurations indicated below. Then answer these questions:

   Q: $3s^2 3p^5$ R: $3s^1$ T: $4d^{10}5s^2 5p^5$ X: $4d^{10}5s^2 5p^1$

Name:_____
Period:_____
Date:_____

a. Identify the block of location of each hypothetical main-group element.

b. Which of these elements are in the same period? Which are in the same group?

c. Which element would you expect to have the highest first ionization energy? Which would have the lowest first ionization energy?

d. Which element would you expect to have the highest second ionization energy?

7. Define valence electrons:_____

8. In which shells are the valence electrons found and why are they important?