

Atomic Radius-Ionic Radius Notes

Name: _____ Pd.: _____

1. Periodic Trends

- Many _____ of the elements tend to change in predictable ways.
- Look for trends as you move _____ a period or _____ a group.
- Remember these are only _____ and aren't always true.

2. Atomic Radius

- How is atomic radius measured?
- What happens to atomic radius across a period?
 - Why do we see this change across a period?
- What happens to atomic radius down a group?
 - Why do we see this change down a group?
- Which element has the largest radius on the picture? _____
- Which element has the smallest radius on the picture? _____

3. Practice: Which element in each pair has the largest atomic radius?

- | | |
|-------------|-------------|
| a. Na or Li | d. Cl or Ar |
| b. Na or F | e. F or Br |
| c. Fr or He | |

4. Ionic Radius

- What is an ion?
- What happens to the size of an atom that gains electrons to become a negative ion?
- What happens to the size of an atom that loses electrons to become a positive ion?
- Using the picture shown, which ion is larger: N^{3-} , O^{2-} or F^- ? _____
- Why do you think your answer from d is larger? _____

5. Practice: Which atom or ion in each pair is larger?

- | | |
|--------------------------------------|---|
| a. Na or Na^+ | d. F^- or Cl^- |
| b. Na^+ or Mg^{2+} | e. Ga^{3+} or Ca^{2+} |
| c. Cl or Cl^- | f. S^{2-} or Cl^- |