

Chapter 7, Worksheet 2
AP Chem, Periodic Properties of Elements

Name _____
Period _____

1. As a general rule, the size of atoms increases as you move to the (left/right) or (up/down) on the periodic table. What part of this generalization is counter-intuitive?
2. Predict the atom in each of the following pairs with the larger radius.
a) Be or Mg b) C or N c) Se or Cl
d) Ba or Y e) Mg or Sc f) Te or I
3. As a general rule, metals that are (farther from/closer to) the boundary between metals and nonmetals have more "metallic character", and nonmetals that are (farther from/closer to) the boundary have more "nonmetallic character".
4. Predict the element with more metallic character.
a) Cs or Sr b) Al or Mg c) Rb or K d) Rb or Ba
5. Predict the element with more nonmetallic character.
a) N or O b) S or Se c) As or F d) B or Si
6. As a general rule, (metal/nonmetal) ions are larger than (metal/nonmetal) ions.
7. As a general rule, metal atoms are (larger/smaller) than their (+) ions, and nonmetal atoms are (larger/smaller) than their (-) ions.
8. In general, the size of either positively charged or negatively charged ions increases as you move to the (left/right) or (up/down) on the periodic table.
9. Predict the larger of each of these pairs of atoms or ions.
a) Mg or Mg^{+2} b) Br or Br^- c) K or K^+ d) Na^+ or Mg^{+2}
e) Na^+ or F^- f) Sr^{+2} or Ba^{+2} g) Mg^{+2} or Al^{+3} h) I or I^-
i) F^- or Cl^- j) Al^{+3} or P^{-3}
10. As a general rule, first ionization energy (the energy needed to remove the first electron from a neutral gaseous atom) increases as you move to the (left/right) and (up/down) on the periodic table.