

## Chapter 6 Practice

### Periodic Trends

- Which particle has the largest radius from each pair:  
a.) K or  $K^+$                       b.) F or  $F^-$                       c.) O or  $O^{2-}$                       d.) Ca or  $Ca^{2+}$
- Indicate the element in each of the following pairs that has the greater first ionization energy.  
a) fluorine or chlorine                      d) carbon or nitrogen  
b) sodium or oxygen                      e) hydrogen or lithium  
c) beryllium or magnesium                      f) hydrogen or carbon
- Rank the following elements by increasing atomic radius: carbon, aluminum, oxygen, potassium.
- Rank the following elements by increasing electronegativity: sulfur, oxygen, neon, aluminum.
- Why does fluorine have a higher ionization energy than iodine?
- Why do elements in the same family generally have similar properties?

### Periodic Table Identification

- The noble gases are elements in which the outermost \_\_\_\_\_ and \_\_\_\_\_ sublevels are completely filled.
- Group IA elements are called \_\_\_\_\_.
- Group IIA elements are called \_\_\_\_\_.
- The nonmetallic elements of Group 7A (which includes Fluorine) are called the \_\_\_\_\_.
- Which of the following elements are representative? P, Co, C, Li, Ag, Al

### For each description below, list an ELEMENT that fits the description.

- In the 3<sup>rd</sup> period with 4 valence electrons.
- The representative element with the lowest ionization energy.
- Alkali element in period 5.
- Neutral atom with 20 electrons.
- 2 ion from period 3.
- In the 2<sup>nd</sup> period with 2 valence electrons.
- Halogen in period 4.
- +1 ion with largest radius.
- Poor conductor of electricity in period 5.
- Noble gas in period 2.
- Alkaline earth from period 5.
- Halogen from period 2A.
- Metalloid from Group 4A.
- Non-metal from group 5A.
- Metal from group 4A.
- +2 ion from period 2.
- Good conductor of electricity in period 3.
- +1 ion from period 4.
- Neutral atom with 30 electrons.
- 1 ion with smallest radius.
- Noble gas with largest radius.
- In period 3 with 5 valence electrons.
- Transition metal in period 3 with 5 valence electrons

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