Name : Date :

Trends in the Periodic Table Worksheet

Use your knowledge of the periodic table trends to answer the following questions.

1. Define a group. _____

2. Define a period. _____

3. What is the symbol for the following elements?

   a) Sodium _____ b) Potassium _____ c) Silver _____ d) Gold _____

4. What are the names of the following elements?

   a) C _____ b) Mg _____ c) Mn _____ d) Cr _____

5. Circle the correct answer

a) Which element has the largest atomic size?	Lithium	Cesium	Fluorine
b) Which element has the smallest atomic size?	Potassium	Helium	Radon
c) Which element has the smallest ionization energy?	Arsenic	Nitrogen	Potassium
d) Which element has the largest electronegativity?	Lithium	Carbon	Chlorine

6. Which metal has the largest radius – Li or Na? Why?

7. What is electron shielding?

8. Fill in the blanks.

   a) Atomic radii generally _____ as you go from left to right across a period. Atomic radii generally _____ as you move down a group because there are more _____ .

   b) The energy required to remove an electron from an atom is called the _____ energy. This generally _____ as you move from left to right across a period and decreases as you move down a group. The noble gas has the _____ ionization energy within each period.

   c) As you remove successive electrons, the ionization energy _____ but not always uniformly. The differences between successive ionization energies show that atoms tend to lose electrons to attain the electron configuration of the _____ gases.

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Answers

1. Define a group. A column where the elements have the same number of valence electrons

2. Define a period. A row where the elements have the same number of energy level

3. What is the symbol for the following elements?

   a) Sodium Na b) Potassium K c) Silver Ag d) Gold Au

4. What are the names of the following elements?

   a) C Carbon b) Mg Magnesium c) Mn Manganese d) Cr Chromium

5. Circle the correct answer

a) Which element has the largest atomic size?	Lithium	(Cesium)	Fluorine
b) Which element has the smallest atomic size?	Potassium	(Helium)	Radon
c) Which element has the smallest ionization energy?	Arsenic	Nitrogen	(Potassium)
d) Which element has the largest electronegativity?	Lithium	Carbon	(Chlorine)

6. Which metal has the largest radius – Li or Na? Why?

   Na, because it has more energy levels than Li.

7. What is electron shielding?

   It reduces the attractive force between a positively charged nucleus and its outermost electrons due to the cancellation of some of the positive charges by the negative charge of the other electrons.

8. Fill in the blanks.

   a) Atomic radii generally decrease as you go from left to right across a period. Atomic radii generally increase as you move down a group because there are more electrons .

   b) The energy required to remove an electron from an atom is called the ionization energy. This generally increase as you move from left to right across a period and decreases as you move down a group. The noble gas has the highest ionization energy within each period.

   c) As you remove successive electrons, the ionization energy increases but not always uniformly. The differences between successive ionization energies show that atoms tend to lose electrons to attain the electron configuration of the noble gases.