



## Chemistry

### Homework: Trends in the Periodic Table

1. Where are the metals located on the periodic table? The nonmetals?
  
  
  
  
  
2. Is Magnesium, Mg, a metal or a nonmetal? Explain your thinking.
  
  
  
  
  
3. In what areas of the periodic table do you find the most highly reactive elements? How do you know?
  
  
  
  
  
4. How would you expect cesium, Cs, to react with water? Explain your reasoning
  
  
  
  
  
5. Name two elements that have properties similar to those of beryllium, Be, and have average atomic masses higher than 130.
  
  
  
  
  
6. Which of the following elements are nonmetals (there may be more than one)?
  - a. Bromine, Br
  - b. Carbon, C
  - c. Potassium, K
  - d. Thallium, Tl
  - e. Phosphorus, P
  - f. Aluminum, Al
  
  
  
  
  
7. A filament for a light bulb must conduct electricity. Which of the elements listed below might be useful as a lightbulb filament? *Explain your thinking.*
  - a. Tungsten, W
  - b. Sulfur, S
  - c. Bromine, Br

Name: \_\_\_\_\_ Period: \_\_\_\_\_

8. Find iodine on the periodic table.
  - a. Find iodine's atomic number, average atomic mass, period, and group. Label each in your answer.
  - b. Would you expect iodine to be a solid, liquid, or gas at room temperature?
  - c. Is iodine a metal, metalloid, or nonmetal? How do you know?
  - d. Do you expect iodine to be reactive? Explain.
9. Name two alkali earth metals and two halogens. Make sure to indicate which elements belong in which group.
10. Which noble gas is closest to sulfur on the periodic table? What must happen to a sulfur atom for it to have an electron arrangement similar to that of a noble gas?
11. When chlorine gains an electron to become a chloride ion with a -1 charge, it ends up with the same *electron arrangement* as argon. Why doesn't it become an argon atom?