The periodic table: Element exploration.

Name _____

1. In your own words, what is the periodic table of the elements?

2. Choose a main-group element that you would like to learn more about. Write the element below. What is the symbol for that element? Write the symbol next to its name.

Go to the Periodic Table Live! (PTL!; *www.chemeddl.org/resources/ptl*) and click on the symbol for the element you have chosen to learn more about.

3. Starting under the "Description" tab, list three intriguing facts you about your element.

4. What group is your element in?

5. Is your element an alkali metal, an alkaline earth metal, a transition metal, a metalloid, or a nonmetal?

6. Within its group is your element the smallest element? If not, list the smaller elements.

7. Within its group, is your element the largest element? If not, list the larger elements.

8. Look under the "Physical" tab for your element. What is the density, boiling point, and abundance of your element? (If there is no data, write that down.) Define each in your own words.

Density _____
Boiling point_____
Abundance _____

9. Look under the “Atomic” tab for your element. What is the electron affinity, first ionization energy, atomic radius, and electronegativity of your element? (If there is no data, write that down.) Define each in your own words.

   Electron affinity _____
   First ionization energy _____
   Atomic radius _____
   Electronegativity _____

If you look to the left of the screen in the lower left-hand corner, you will see a second set of tabs. The last set of questions will require you to click through these to answer the final questions.

10. Click on the “Media” tab then scroll down to the crystal structures. Does your element have a known crystal structure that is presented here? Describe what you see. Make a sketch of what you see.

11. Under the “Media” tab look at the images. List one use for your element.

12. Finally, under the “Media” tab look at the videos. Does your element participate in any chemical reactions with water, air, acids, or bases (based on the videos)? Watch the videos (if there are any) and explain what happens in each reaction.