

Lab Activity: Getting to Know the Periodic Table

READ ALL DIRECTIONS BEFORE BEGINNING THE ACTIVITY.

Objective: Use the periodic table to identify and classify elements and to predict behavior of elements.

Procedure: Follow the directions given below in the order listed. Use your copy of the periodic table, the copy inside the back cover of the textbook, and information from Chapter 6 as guides.

Check (✓) each item when completed.

- 1. Number the groups using numbers 1 through 18.
- 2. Number the groups using A and B group numbers.
- 3. Number the periods using numbers 1 through 7. Be sure to label the two rows at the bottom.
- 4. Draw a heavy black stair step line between the metals and nonmetals (see p. 179).
- 5. Write the name of each of the following groups in the spaces below (use pp. 177-180 and pp. 906-945). Then, write the group name above the appropriate column on the periodic table.
 - Group 1: _____
 - Group 2: _____
 - Groups 3-12 (collectively): _____
 - Group 13: referred to as the _____
 - Group 14: referred to as the _____
 - Group 15: referred to as the _____
 - Group 16: referred to as the _____
 - Group 17: _____
 - Group 18: _____
- 6. Write the names of the f block elements next to the two rows pulled out at the bottom of the periodic table. Be sure that the period numbers are also written next to these rows (#3 above).
- 7. Write the **symbol** of each element that exists as a **gas** at ordinary conditions in RED. See p. 178-179 or use the wall chart for assistance.
- 8. Write the **symbol** of each element that is a **solid** in BLACK.
- 9. Write the **symbol** of each element that is a **liquid** in BLUE.
- 10. Write the symbol of each element that is **synthetic** (man-made) as an outline or bubble letters; see wall periodic table.
- 11. Place the atomic number for each element above the symbol in each element box.
- 12. Use the chart below to lightly color (shade) the indicated group on the periodic table.

halogens	blue	(include H in this group)
noble gases	yellow	
alkali metals	purple	(H is <u>not</u> an alkali metal)
alkaline earth metals	red	
transition elements (d block only)	green	
boron group	pink	
carbon group	gray/light black	
nitrogen group	orange	
oxygen group	brown	
lanthanides (period 6, f block)	light blue	
actinides (period 7, f block)	light green	
- 13. Create a legend or key for #12 and write it in the open space above the d block elements. For example, color the box next to "Halogens" blue.
 - Halogens
- 14. Outline each box in dark green if the element is RADIOACTIVE in its common form; **Pm** and **Tc** are radioactive as well as elements with an atomic number **greater than 82**.
- 15. Write the number of valence electrons above the group number for the groups of representative elements (s and p block) only.

Check to be sure that each part is complete. Write your name, date, and class period on the back side of your periodic table before turning it in for grading. Place this instruction sheet in your notebook.

