

Name _____ Period _____
 Chemistry _____

Mr. Thaler

Refer to Chapter 5 (and 6) of your textbook. On the generic periodic table below (page 2):

1. Draw a bold line (“the step”) separating the metals from the nonmetals.
2. Lightly color the metals some shade of blue. **First see number 5 below.**
3. Lightly color the metalloids some shade of purple.
4. Lightly color the nonmetals some shade of red.

(Be careful that your red and purple are distinguishable. Actually, any three colors will do, but metalloids exhibit properties of both metals and nonmetals, so their colors should blend.)

5. Lightly color hydrogen something completely different than the group-1 metals (like orange); it is NOT a metal, but rather in a class by itself.

For numbers 6 and 7, list the elements as chemical symbols in the space below the periodic table, and include an appropriate heading for each. See page 201 of the textbook.

6. List the elements that are gases at room temperature (20-25°C). List those that are diatomic (*two* atoms) as such—for example, H₂, N₂, etc.
7. Likewise, list the elements that are liquids at room temperature.
8. In the space below, define **electronegativity**. In the margins of the periodic table, draw and label two arrows indicating increasing electronegativity of elements. *Why does the trend of electronegativity exclude the noble gases?*

Electronegativity—

9. Likewise, define **atomic radius**. In the margins of the periodic table, draw and label two arrows indicating increasing atomic radii of elements.

Atomic radius—

10. Define **ionization energy** below. Include increasing ionization energy on the arrows for one of the above trends, 8 or 9; it parallels only one of them.

Ionization energy—

11. With a pencil, lightly draw hash marks (////) across the *representative elements* on the periodic table.
12. Outline and label the *s*-, *p*-, *d*-, and *f*-blocks on the periodic table.
13. In the space above the transition metals, or *d*-block, draw two little arrows, one indicating the direction of the periods, the other indicating the direction of the groups (or families), and label each. One arrow should be horizontal, the other vertical.
14. Finally, in the spaces below, briefly explain what differentiates periods from groups (or families). ***To say that one is horizontal and one is vertical is not acceptable.***

Periods—

Groups—

