

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

### Periodic Trends Ws #1: Using the Periodic Law

1. Elements in the periodic table are listed in order of increasing \_\_\_\_\_.
2. They are also arranged in \_\_\_\_\_ rows and vertical columns.
3. The elements were first arranged in this way in 1869 by \_\_\_\_\_.
4. Families of elements with similar \_\_\_\_\_ lie in the same vertical column in the periodic table.
5. Families are also called \_\_\_\_\_.
- ~~6. Use colored pencils to label the families on the blank periodic table I gave you.
  - a. alkali metals
  - b. alkaline earth metals
  - c. halogens
  - d. noble gases
  - e. transition metals~~
7. Most elements are \_\_\_\_\_.
8. Metals have the following characteristic physical properties.
  - 1.
  - 2.
  - 3.
  - 4.
9. The relatively small number of elements that appear in the upper right hand corner of the periodic table are called \_\_\_\_\_.
10. Most metals are \_\_\_\_\_ at normal temperatures.
11. Many nonmetals are \_\_\_\_\_.
12. One nonmetal, \_\_\_\_\_, is liquid at room temperature.
13. Elements that lie close to the stair step line on the periodic table show a mixture of metallic and \_\_\_\_\_ properties.
14. These elements are called \_\_\_\_\_ or Semi-metals.
15. The periodic table is a valuable tool for because it helps us to \_\_\_\_\_ the properties of elements.
- ~~16. Use colored pencils to label the metals, non-metals and metalloids~~

Name \_\_\_\_\_

## Periodic Trends Ws #2: Atomic Properties and the Periodic Table

1. Chemistry is fundamentally a science based on the \_\_\_\_\_ of substances.
2. As you go down the alkali metal group, the metals become more likely to \_\_\_\_\_ an electron.
3. This is because as we go down the group, the electron being removed resides, \_\_\_\_\_ away from the nucleus.
4. The nucleus has an attractive \_\_\_\_\_ charge.
5. The trend for alkaline earth metals is the farther down in the group the metal resides, the \_\_\_\_\_ likely it is to lose an electron.
6. Nonmetals also trend in their properties.
7. Non metals \_\_\_\_\_ electrons from metals.
8. The most reactive non-metals reside in the \_\_\_\_\_ corner of the periodic table.
9. Atoms get \_\_\_\_\_ as we go down a group in the periodic table.
10. Atoms get \_\_\_\_\_ as we go from left to right across a period.
11. The increase in size down a group is because as the \_\_\_\_\_ level increases, the average distance of the electrons from the nucleus also increases.
12. Atoms get \_\_\_\_\_ as electrons are added to larger principal energy levels.
13. All orbitals in a given principal energy level are expected to be the \_\_\_\_\_ size.
14. The number of \_\_\_\_\_ in the nucleus increases as we move across the period.
15. The increase in \_\_\_\_\_ charge on the nucleus pulls the \_\_\_\_\_ closer to the nucleus.
16. As electrons are added in a given principal energy level, the atoms get \_\_\_\_\_ as the electron cloud is drawn in by the increasing nuclear charge.
17. The \_\_\_\_\_ of an atom is the energy required to remove an electron from an individual atom in the gas phase.
18. Metals have relatively \_\_\_\_\_ ionization energies.
19. A relatively \_\_\_\_\_ amount of energy is needed to \_\_\_\_\_ an electron from a typical metal.
20. Metals at the \_\_\_\_\_ of a group lose electrons more easily.
21. Ionization energies tend to \_\_\_\_\_ in going from the top to the bottom of a group.
22. Nonmetals have relatively \_\_\_\_\_ ionization energies.
23. Nonmetals tend to \_\_\_\_\_, not lose, electrons.
24. Ionization energies tend to \_\_\_\_\_ from left to right across a given period.