

## Periodic Table Trends Worksheet

Name: **KEY**

General Chemistry

Date: \_\_\_\_\_ Hour \_\_\_\_\_

Use your periodic table and notes on periodic trends to answer the following questions. Write your answer on the line provided or circle the correct answer found in brackets [ ]. Complete sentences are not necessary.

- 1) As you go from left to right across a period, the atomic radius? [ **increases** / **decreases** ]? Why?  
**See this KEY**
- 2) As you travel down a group, the atomic radius? [ **increases** / **decreases** ]? Why?  
**See this KEY**
- 3) A negative ion is [ **larger** / **smaller** ] in radius than its neutral atom. Why?  
**See this KEY**
- 4) A positive ion is [ **larger** / **smaller** ] in radius than its neutral atom. Why?  
**See this KEY**
- 5) As you go from left to right across a period, the ionization energy generally [ **increases** / **decreases** ]? Why?  
**See this KEY**
- 6) As you go down a group, the first ionization energy generally [ **increases** / **decreases** ]? Why?  
**See this KEY**
- 7) In which group/family on the periodic table is the highest electronegativity found? **Halogens (Group 17)**
- 8) Specifically, which element on the periodic table has the highest electronegativity? **Fluorine (F)**
- 9) In which group/family on the periodic table is the lowest electronegativity found? **Alkali metals (Group 1)**
- 10) Specifically, which element on the periodic table has the lowest electronegativity? **Francium (Fr)**
- 11) What is the family name for the Group 1 elements? **Alkali metals**
- 12) What is the family name for the Group 2 elements? **Alkaline earth metals**
- 13) What is the family name for the Group 3-12 elements? **Transition metals**
- 14) As you go from left to right across the periodic table, the elements go from [ **metals** / **nonmetals** ] to [ **metals** / **nonmetals** ].
- 15) What is the family name for the Group 17 elements? **Halogens (Group 17)**
- 16) What is the family name for the Group 18 elements? **Noble gasses**

- 17) What electron sublevel(s) are filling across the Transition Elements? **d sublevel**
- 18) Elements across a period have the same number of **energy levels and shielding electrons.**
- 19) As you go down group 14, the elements become [ **more** / less ] metallic.
- 20) The majority of elements in the periodic table are [ **metals** / nonmetals ].
- 21) Elements in the periodic table are arranged according to their **atomic number.**
- 22) An element with both metallic and nonmetallic properties is called a **metalloid.**
- 23) Which element is an alkaline earth metal: 2, 29, 41, **38** or 3? **Strontium (Sr)**
- 24) Which element has a larger effective nuclear charge: 11 or **56**? **Barium (Ba)**
- 25) Which element is a metal: 7, 85, **45**, 9, 36 or 53? **Rhodium (Rh)**
- 26) Which element has the larger atomic radius: 12 or **56**? **Barium (Ba)**
- 27) Which element has the smaller atomic radius: **33** or 20? **Arsenic (As)**
- 28) Which element has the lower ionization energy: 50 or **54**? **Xenon (Xe)**
- 29) Which element is a halogen: 14, **17**, 29 or 51? **Chlorine (Cl)**
- 30) Which element is a metalloid: 21, **51**, 54 or 58? **Antimony (Sb)**
- 31) Which element is in the lanthanides/actinides family: 12, 44, **99** or 104? **Einsteinium (Es)**
- For questions #32-36, use your periodic table and periodic trend notes to circle the best answer.*
- I = Increases                  D = Decreases                  RC = Remains Constant*
- 32) As atomic number increases across a period to group 18, ionization energies?                  [ **I** / D / RC ]
- 33) As atomic number increases moving down group 1, effective nuclear charge?                  [ I / D / **RC** ]
- 34) As atomic number increases across a period to group 17, the electronegativity?                  [ **I** / D / RC ]
- 35) As atomic number increases across a period to group 18, atomic radius?                  [ I / **D** / RC ]
- 36) As atomic number increases across a period to group 18, shielding electron effect?                  [ I / D / **RC** ]