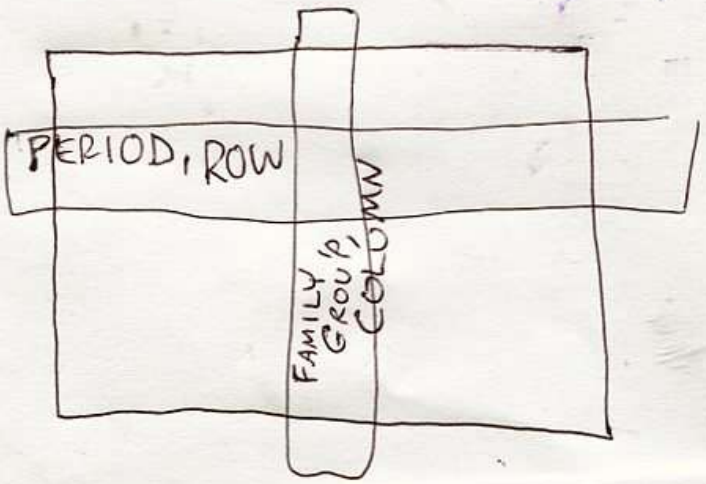
GRAB A BLUE TEXTBOOK

TODAY: 1) WARMUP 2) CHECK HW
3) TEXTBOOK READING 4) New HW

TEST FRIDAY for May 11 to May 21

PURPOSE: WHICH ELEMENTS ARE IN THE SAME "FAMILY"?



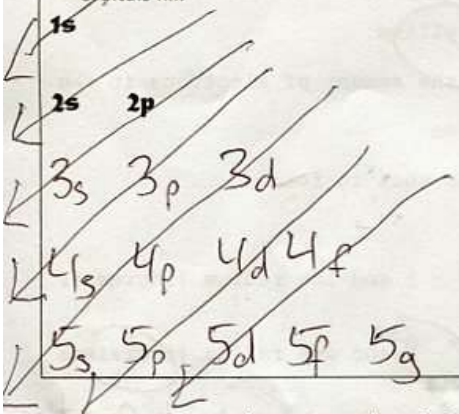
ELEMENTS IN THE SAME GROUP HAVE SIMILAR PROPERTIES

EHS CA3MIs+rY
Mr. Genest


carl

Name
Date ANSWERS

1. Finish drawing out your mnemonic device for remembering what order electron orbitals fill:



2. Write the electron configuration (letters and numbers, no arrows) for Chlorine IT HAS 17 electrons:
$1s^2 2s^2 2p^6 3s^2 3p^5$

3. Write the electron configuration (letters and numbers, no arrows) for a Cl- ion IT HAS 18 electrons
$1s^2 2s^2 2p^6 3s^2 3p^6$

4. The charge of the common calcium ion is 2+. Write the electron configuration (letters and numbers, no arrows) for this calcium ion IT HAS 18 ELECTRONS
$1s^2 2s^2 2p^6 3s^2 3p^6$

5. How many elements are there in Group 2?
SIX (from Be to Ra)
6. How many elements are there in Period 2?
eight (from Li to Ne)
7. Which element in Group 13 has the smallest radius?
BORON
8. Which act more similarly, the elements in a period? the elements in a group?
9. Which element in Period 6 has the largest radius?
CESIUM
10. For the second element in Period 6,
    a. Write its symbol Ba
    b.
    c. If this neutral element lost electrons it would become (positive / negative).
    d. Predict the oxidation of this element after it forms its ion 2+
11. When neutral $^{80}_{37}Rb$ changes into Rb^+ ion, the numbers of some particle(s) change.
    a. $^{80}_{37}Rb$ has 37 protons 37 electrons 43 neutrons
    b. Rb^+ ion has 37 protons 36 electrons 43 neutrons
12. Write the electron configuration (letters and numbers, no arrows) for a Scandium^{3+} ion → $1s^2 2s^2 2p^6 3s^2 3p$
13. Which element in Period 4 has the greatest tendency to gain an e- (electron affinity)?
~~14~~ BROMINE

15. The number of neutrons in an atom is always equal to its
    a. protons
    b. neutrons
    c. protons minus neutrons
    d. mass minus protons

16. The atomic number of an atom is always equal to its
   a. protons
   b. neutrons
   c. protons minus neutrons
   d. mass minus protons

17. Name two elements that should have properties similar to the element that has 15 protons: Nitrogen or ARSENIC or ANTIMONY

18. Circle the elements that would be expected to have similar properties to strontium:
   Potassium magnesium rubidium beryllium

19. In each blank write <, =, or > to describe the amount of electrons in the two things:
   a. a neutral oxygen atom < an oxygen ion
   b. a Na atom > a Na+ ion
   c. neutral sodium > the most common ion that it forms
   d. a K+ ion = a neutral Ar atom
   e. a F- ion = a Na+ ion

20. When it forms an ion, calcium becomes (+ / -) and its radius (increases / decreases)

21. When it forms an ion, bromine becomes (+ / -) and its radius (increases / decreases)

22. When it forms an ion, xenon becomes DOESN'T FORM ANION and its radius Trick Question!

23. Circle the neutral atom which is HARDEST to steal an electron from
   Sr Ag Te

24. Circle the neutral atom which is EASIEST to steal an electron from
   Sr S Te

25. Circle the neutral atom with the smallest atomic radius
   S O Si P