

Unit 3B Review: Periodic Table

Name: KEY

Organization of the Periodic Table

● Elements may react to form ions that have electron configurations like those of the Noble gases.

2. Which element is in group 15 and period 2? ~~B~~ N

3. Which elements are halogens? What charge of ions will they make? Why (what is happening)?

F, Cl, Br, I, At, Uus (-1) they gain 1 electron

4. Which elements are alkaline earth metals? What charge of ions will they make? Why (what is happening)?

Be, Mg, Ca, Sr, Ba, Ra (+2) they lose 2 electrons

5. List at least three elements that are metals. List three characteristics of metals.

(anything left of stair step) • malleable • ductile
Pb, Fe, Ca • conductive
• lustrous

6. List at least three elements that are nonmetals. List three characteristics of nonmetals.

C, F, Ne brittle, not conductive
various lusters

7. How many valence electrons do alkali metals have? |

● Draw the Lewis dot structure for the following:

a. O $\cdot \ddot{O} \cdot$

c. Mg $Mg \cdot$

b. Al $Al \cdot$

d. Br $\cdot \ddot{Br} \cdot$

Trends of the Periodic Table

9. Describe electronegativity.

ability of atom to attract electrons in a bond

10. What happens to the atomic radius as you move left to right across one period? Why?

→ gets smaller
more protons in nucleus pulling electrons in

11. Which element has the highest electronegativity on the whole table? F

12. An atom is chemically stable when all of the orbitals in the outermost energy level are filled.

● Which group of elements has NO electronegativity and VERY HIGH ionization energy? Why?

Noble gases

↓
do not bond (inert)

↓
- very difficult to remove an electron
- full valence shell

