Name KEY **Unit 4: Periodic Table** Period_____

_____**1. I can classify elements as metals, nonmetals, or metalloids based on their placement on the Periodic Table.**	Classify each of the following elements as metals (M), nonmetals (NM), or metalloids (MTLD). MTLD B M K M Li NM C NM Ar MTLD Sb NM H M Fe M Au NM S NM F MTLD Si M Fr NM He _____ Rn MTLD Ge M Al MTLD As M Bi NM I
_____**2. I can state the group names for elements in groups 1, 2, 17, and 18.**	Group 1 is called the Alkali Metals. Group 2 is called the Alkaline Earth. Group 17 is called the Halogens. Group 18 is called the Noble gased.
_____**3. I can explain why elements in the same group have similar chemical properties.**	Elements in the same group have similar chemical properties because Same # of valence Electrons
_____**4. I can explain why the elements in Group 18 don't usually react with other elements.**	Elements in Group 18 don't usually react with other elements because they have a full valence shell
_____**5. I can state the names/symbols for the two elements on the Periodic Table that are liquids at STP.**	The two elements that are liquids at STP are: Mercury and Bromine

KEY

_____6. I can state how the elements on the Periodic Table are arranged.	The elements on the Periodic Table are arranged by increasing Atomic Number . . . # of protons
_____7. I can list the 7 diatomic elements.	The seven diatomic elements are: BrINClHOF
_____8. I can define electronegativity, first ionization energy, atomic radius, ionic radius, metallic character, and activity/reactivity.	**Definitions:** electronegativity An atoms attraction for electrons first ionization energy How much energy it takes to remove a valence e⁻ .. to make it an ion atomic radius distance from nucleus to outer ring of electrons ionic radius distance from nucleus to outer ring of an ion! metallic character How much like a metal the element is - shiny, conductive activity/reactivity How quick an atom reacts... forms bonds.

_____9. I can state the periodic trend for electronegativity and explain why it occurs.	As one reads down a group from top to bottom, electronegativity ↓ decreases because increased shielding (more shells or P.E.Ls) As one reads across a period from left to right, electronegativity → increases because # of protons increases, increasing attraction and "greed" for electrons.
_____10. I can state the periodic trend for first ionization energy and explain why it occurs.	As one reads down a group from top to bottom, first ionization energy decreases because increased # of energy levels (shells) shielding As one reads across a period from left to right, , first ionization energy increases because more protons, smaller radius, more attractive. hold over electrons.
_____11. I can state the periodic trend for atomic radius and explain why it occurs.	As one reads down a group from top to bottom, atomic radius increase because increased number of energy levels. As one reads across a period from left to right, atomic radius decreases because # of positive protons increases attractive pull

_____12. I can state the periodic trend for metallic character and explain why it occurs.	As one reads down a group from top to bottom, metallic character increases because increased # of shells. As one reads across a period from left to right, metallic character decreases because moving towards "nonmetals".
_____13. I can state the trend for activity/reactivity for METALS as one reads down a group.	As one reads down a group from top to bottom, the activity/reactivity of METALS increases. more shells! easier to react!
_____14. I can state the trend for activity/reactivity for NONMETALS as one reads down a group.	As one reads down a group from top to bottom, the activity/reactivity of NONMETALS Decreases. moving away from F. (shells)
_____15. I can explain how loss or gaining of electrons affects the radius of an element.	Metals tend to lose electrons (get oxidized). This loss of electrons causes cations to be smaller than the original atom. Nonmetals tend to gain electrons (get reduced). This gain of electrons causes anions to be larger than the original atom.
_____16. I can list 10 properties of metals.	10 properties of metals are: +shiny -Lose e^- -form cations -ductile +hard -conduct heat -high melting point +solid at room temp -conduct electr. -malleable
_____17. I can list 8 properties of nonmetals.	Eight properties of non metals are: -dull -gain e^- -Low melting pt -Brittle -Soft -Low conductivity -gas -form anions