Organization of Elements

1) **Activity – How to organize playing cards.**
2) Elements were identified slowly at first. Only 13 by 1700. But from 1765-75 there were 5 new elements identified. Organization of the information.
3) Dmitri Mendeleev in 1869 published his table arranged by increasing atomic mass, just a short time later Lothar Meyer published an identical table. Mendeleev was given more credit since he published first and he could better explain its usefulness.
    - When predicted properties matched actual properties scientists saw its usefulness.
4) Henry Moseley in 1913 determined atomic number was better to order the table. (Isotopes are taken out of the question). Also used properties.
5) Label the following on a periodic table: metals, nonmetals, metalloids with properties, alkali metals, alkaline earth metals, halogens, noble gases, row/period, column/group/family, transition metals, inner transition metals, s,p,d, and f blocks, lanthanide series, actinide series.
6) Other PT items.
    - Use the table to do electron configurations.
    - Representative elements – Group A display wide range of properties.
    - Transition Metals Group B.
    - Ambiguity in design.
    - Reactivity increases as you go down within a group for metals and decreases for nonmetals.
7) **Activity Periodic Crossword and pun on words.**
8) Periodic Trends
    - Atomic radius – increases top to bottom and from right to left
    - Ionization Energy – amount of energy needed to remove an electron.
    - 1^{st} and 2^{nd} Ionization Energies decrease from top to bottom and right to left.
    - Ionic Size – cations are smaller than atoms and Anions are always larger. Similar to atomic but it differs for cations and anions.
    - Electronegativity – ability to attract electrons. Decrease from top to bottoms and from right to left.

Rd: pg 155-178
HW: pg 181 #36, 38, 42, 43