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- How did Mendeleev arrange the Periodic Table?
 Mendeleev arranged the Periodic Table according to increasing atomic mass.
- How is the current periodic table organized?
 The current Periodic Table is organized according to increasing atomic number (Mosely did this).
- What does the Periodic Law state?
 Properties of elements repeat in a predictable way when atomic numbers are used to arrange elements into groups.
- 5. The periodic table is arranged horizontally into rows called <u>periods</u>. There are a total of <u>7</u> periods.
- 6. The period is directly related to the number of energy levels,
- 7. The periodic table is arranged vertically into families or <u>groups</u>. There are a total of <u>18</u> groups. Elements in the same group have similar physical and chemical <u>characteristics</u>.
- 8. The group number is directly related to the number of <u>valence</u> electrons.
- 9. Elements are classified as <u>Metals</u>, <u>Nonmetals</u>, and <u>Metalloids</u>.
- 10. List 3 characteristics of metals:
 - 1.) Metals are good conductors of heat and electric current.
 - 2.) Metals are usually solids at room temperature.
 - 3.) Metals are ductile (easily bent).
- 11. List 3 characteristics of nonmetals.
 - 1.) Nonmetals are poor conductors of heat and electric current.
 - 2.) Nonmetals are usually gases at room temperature.

3.) Nonmetals that are solid at room temperature are brittle (they shatter/crumble when hit with a hammer).

12. What are metalloids? Metalloids are elements that fall between metals and nonmetals on the Periodic Table; they have properties of both metals and nonmetals, however their properties are

dependent on temperature. Metalloids are good conductors at high temperatures and good insulators at low temperatures.

- 13. Where are metalloids located on the periodic table? Metalloids are found between metals and nonmetals on the Periodic Table.
- 21. What are valence electrons? Valence electrons are electrons on the outermost energy level of elements.

Group Number	Group Name	# of Valence Electrons.
1	Alkali Metals	1 VE
2	Alkaline Earth Metals	2 VE
3-12	Transition Metals	
13	Boron Family	3 VE
14	Carbon Family	4 VE
15	Nitrogen Family	5 VE
16	Oxygen Family	6VE
17	Halogens	7 VE
18	Noble Gases	8 VE

22. Complete the table below:

- 23. What groups on the periodic table are the MOST reactive? How many valence electrons does each of these groups have? Alkali Metals (1 VE) and Halogens (7 VE) are the most reactive groups.
- 24. What group on the periodic table is the LEAST reactive? How many valence electrons does this group have? Noble gases (8 VE) are the least reactive (most stable) group on the Periodic Table.
- 25. Identify each element described below. Write the name and chemical symbol.
 - a. A halogen with 3 energy levels
 - b. Has 3 valence electrons and 6 energy levels
 - c. An alkali metal with 11 protons
 - d. Is a very reactive nonmetal with 2 energy levels
 - e. Is a very reactive metal with 5 energy levels
 - f. A transition metal with 4 energy levels
 - q. Is an alkaline earth metal with 20 protons
 - h. A metalloid with 3 energy levels
 - i. A metal with 3 valence electrons and 5 energy levels In Indium
 - j. Has similar chemical properties as oxygen but has 4 energy levels
 - k. Has similar chemical properties as cesium but only has 3 electrons Li Lithium

- Cl Chlorine
- **TI** Thallium
- Na Sodium
- F Fluorine
- **Rb Rubidium**
- Sc Scandium Zn Zinc
- Ca Calcium
- Ge Germanium or As Arsenic
 - Se Selenium