**Periodic Table of Elements Notes**

**Objectives**:

Students will be able to:

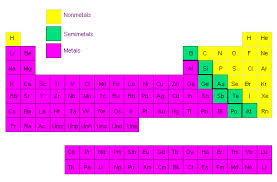
* Explain how elements are organized.
* Distinguish between groups/families and periods.
* Identify elements with similar properties.
* Label and explain properties of large groups of elements.
* Predict properties of the substance or position on the table based on given patterns.

**Vocabulary**

* **Atomic Number-** number of protons in the atom
* **Atomic Mass-** number of protons and neutrons in the atom (Average mass of all atoms of that kind, including isotopes)
* **Groups/Families**- vertical columns on the periodic table that have similar properties (Numbered 1-18)
* **Periods** – horizontal rows on the periodic table, as you go across the periods each element adds one proton (Numbered 1-7)

**History of the Periodic Table**

1. Who is credited with first organizing elements into a periodic table? How were the elements organized?
2. What did he do that was forward thinking, important, and helpful?
3. How do we organize elements in the Modern Periodic Table?
4. How do we create symbols for the Periodic Table?

**Trends in the Periodic Table**

1. Metals Properties

   2. Good Conductors of Heat and Electricity
   3. - can pound into sheets
   4. - can pull into wires
   5. High Density
   6. High Melting Point
   7. at Room Temperature (except Mercury)
2. Non-Metals Properties

   2. Not Malleable
   3. Not Ductile
   5. Many are       at room temperature
   6. Solid non-metals are usually brittle
   7. More than       of your body is made of non-metals
3. Metalloids Properties
   1. Elements with      .
   2. Have characteristics of metals and non-metals
   3. Some are      , some are
   4. Many are good      , but not as good as metals
   5. Border separation between metals and non-metals. ex. Al, Ge, As, Sb, Te…

**Groups on the Periodic Table**

8. Main Group Elements:

Group 1-

Group 2-

Group 13-

Group 14-

Group 15-

Group 16-

Group 17-

Group 18-

1. Transition Elements: Groups 3-12

10. Inner Transition Elements/Rare Earth Elements:

Lanthanides

Actinides

