

Notes Chapter 3-1 Development of the Periodic Table

- I. The periodic table evolved over time as scientists discovered more useful ways to compare and organize elements.
- II. In the early years scientists grouped elements with similar physical and chemical properties.
 - i. Copper, silver, and gold were used for making coins—they were grouped together.
 - ii. Chlorine, bromine and iodine were all gases—they were grouped together and called the halogens.
- III. Dmitri Mendeleev
 - i. Organized elements by atomic mass
 - ii. Eventually he reorganized his table into vertical columns and horizontal rows, using this arrangement he was able to predict where elements that had yet to be discovered would fit.
 1. Because of his work he is known as the father of the periodic table
- IV. Moseley
 - i. Re-organized Mendeleev's table into the modern periodic table we use today.
 - ii. Used atomic number (number of protons) to order the elements.
- V. Both Mendeleev and Moseley understood that elements with similar properties would naturally be grouped together, and those properties would gradually progress as you moved across the table.
 - i. We call this the periodic law.
 - a. Valence electrons increase as you move across the periodic table.