

## **Chapter 5: The Periodic Law**

### **Section 1: History of the Periodic Table**

In September of 1860, Stanislao Cannizzaro presented a method for measuring the relative masses of atoms

#### Mendeleev and Chemical Periodicity

In 1869, Mendeleev published his first periodic table

The elements were placed in order of increasing atomic mass and similar properties

Mendeleev's periodic table contained several blank spaces, which were filled in 1886

#### Moseley and the Periodic Law

Moseley is credited as the chemist who discovered and defined atomic number and atomic patterns

Periodic Law: The physical and chemical properties of the elements are periodic functions of their atomic numbers

When elements are arranged in order of increasing atomic number, elements with similar properties appear at regular intervals

#### The Modern Periodic Table

Periodic Table: An arrangement of the elements in order of their increasing atomic numbers so that elements with similar properties fall into the same column, or group

#### The Noble Gases

John William Strutt, Sir William Ramsay, and Friedrich Ernst Dorn discovered the noble gases

#### The Lanthanides

The lanthanides are the group 14 elements from atomic numbers 58 to 71

The similarity of the lanthanides resulted in tedious separation and identification

#### The Actinides

The actinides are the group 14 elements from atomic numbers 90 to 103