Name _____

Pioneers of the Periodic Table: Early Scientists and the Elements

Open-Ended Response Answer Key

1. Both Antoine Lavoisier and John Dalton made significant contributions to modern chemistry. Lavoisier developed the law of conservation of mass and helped establish a system for naming and categorizing elements. Dalton introduced the atomic theory, which proposed that elements are made up of atoms with specific properties.
2. Dmitri Mendeleev's periodic table organized elements based on atomic mass and properties, and it was revolutionary because it predicted the properties of undiscovered elements. This organization laid the foundation for the modern periodic table.
3. Henry Moseley's work introduced the concept of atomic number, which is used to organize elements on the periodic table. This concept revolutionized the arrangement of elements by providing a more accurate and logical order.
4. Marie Curie's research on radioactivity led to the discovery of radium and polonium and expanded our understanding of the behavior of elements. Her work in radioactivity had significant implications for both scientific research and medical applications, particularly in the field of cancer treatment.