Name _____

The Puzzle Solvers: Pioneers of the Periodic Table

Short Answer Key

1. Dmitri Mendeleev is often credited as the father of the modern periodic table. His contributions include the proposal of the periodic law, which states that when elements are arranged in order of increasing atomic mass, their properties exhibit periodicity. Mendeleev organized the elements into a table based on atomic mass and chemical properties and left gaps for undiscovered elements, predicting their properties based on the periodicity he observed.

2. Henry Moseley proposed that the fundamental property determining an element's position on the periodic table was its atomic number. This insight revolutionized the periodic table by reordering the elements based on atomic number, which aligned their positions with their chemical properties more accurately.

3. Dmitri Mendeleev organized the elements in his periodic table based on increasing atomic mass and chemical properties. He left gaps for undiscovered elements because he believed in the periodicity of the elements and was able to predict the properties of these missing elements based on the patterns he observed in the table.

4. Antoine Lavoisier made significant contributions to the field of chemistry, including the development of the modern chemical nomenclature and the concept of the conservation of mass. While his work laid the foundation for later advancements in chemistry, he was not directly involved in the development of the periodic table.

5. Marie and Pierre Curie discovered and isolated radioactive elements such as radium and polonium. Their research on radioactivity contributed to our understanding of the properties of these elements and their placement on the periodic table.