

Name _____

Unlocking the Secrets of Atoms: Building Blocks of the Universe

Short Answer Key

1. Atoms are considered electrically neutral because they have an equal number of protons (positive charge) and electrons (negative charge), which balance each other's charges.
2. The atomic number is a unique identifier of an element and is determined by the number of protons in the nucleus. For example, all hydrogen atoms have an atomic number of 1.
3. Isotopes are atoms of the same element with the same number of protons (same atomic number) but different numbers of neutrons, resulting in varying atomic masses.
4. Atoms combine to form molecules and compounds through chemical bonds. For example, water (H₂O) is formed by the combination of two hydrogen atoms and one oxygen atom.
5. Atoms are essential for understanding the properties of matter, chemical reactions, and technological advancements. They serve as the foundation for chemistry and our understanding of the physical world.

