

Name \_\_\_\_\_

## Unlocking the Secrets of Atoms: Building Blocks of the Universe

### Open-Ended Response Questions

1. Dive deeper into the structure of atoms by explaining the arrangement of protons, neutrons, and electrons within an atom. How do these components contribute to the atom's stability?
2. Imagine you are a scientist exploring a newly discovered element. Discuss the significance of determining the element's atomic number and how it helps you identify and classify this new element.
3. Investigate the practical applications of isotopes in fields like medicine and industry. Provide examples of isotopes used for various purposes and explain their importance.
4. Explore the role of atoms in chemical reactions. How do atoms and their interactions contribute to the formation of new substances, and why is this fundamental in understanding chemical processes?

