

Name \_\_\_\_\_

## Creating the Unseen: The Science of Synthetic Elements

### Open-Ended Response Questions

1. Explore the concept of nuclear stability and why many synthetic elements are highly unstable. What factors contribute to their short half-lives?
2. Discuss the potential risks and benefits of creating synthetic elements for scientific research and practical applications. How can scientists ensure the safety of experiments involving highly radioactive materials?
3. Investigate the role of synthetic elements in materials science and nanotechnology. How might their unique properties be harnessed for technological advancements?
4. Reflect on the importance of transparency and responsible research practices when working with synthetic elements. How can ethical considerations guide scientists in their experiments and applications of these elements?

