

Name _____

Elementary Explorations: The Wonders of the Periodic Table

Open-Ended Response Answer Key

1. The periodic table is a valuable tool for scientists because it organizes elements in a way that helps them predict an element's properties, including its reactivity, melting point, and atomic size. Scientists also use it to identify elements in various substances and understand how they interact in chemical reactions.
2. To create a new synthetic element, I would use a particle accelerator to accelerate the nuclei of two lighter elements and smash them together. This process may result in the formation of a new, heavier element with a higher atomic number. It is important to study such elements to expand our understanding of the universe and test the limits of the periodic table.
3. There may never be an end to discovering new elements because the periodic table has empty spaces that suggest the existence of elements with higher atomic numbers. As technology advances, scientists may continue to create and identify new elements, pushing the boundaries of our knowledge.
4. (Answer will vary) I would name a new element "Aquanetium" because it could have unique properties related to water or liquid behavior. This name would reflect its significance in understanding the fundamental properties of liquids and their role in chemistry and biology.

