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Student Exploration: Element Builder

Directions: Follow the instructions to go through the simulation. Respond to the questions and prompts in the orange boxes.

Vocabulary: atom, atomic number, electron, electron dot diagram, element, energy level, ion, isotope, mass number, neutron, nucleus, periodic table, proton, radioactive, valence electrons

Prior Knowledge Questions (Do these BEFORE using the Gizmo.)

1. What are some of the different substances that make up a pizza?
2. What substances make up water?
3. What substances make up an iron pot?

Cheese, dough, and sauce

Hydrogen and oxygen

Iron

Elements are pure substances that are made up of one kind of **atom**. Pizza is not an element because it is a mixture of many substances. Water is a pure substance, but it contains two kinds of atom: oxygen and hydrogen. Iron is an element because it is composed of one kind of atom.

Gizmo Warm-up

Atoms are tiny particles of matter that are made up of three particles: **protons**, **neutrons**, and **electrons**. The *Element Builder* Gizmo shows an atom with a single proton. The proton is located in the center of the atom, called the **nucleus**.

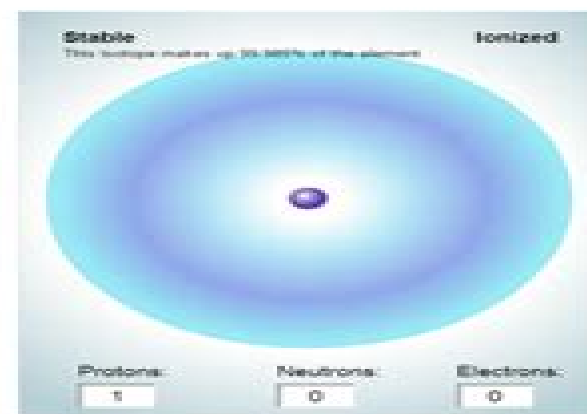
1. Use the arrow buttons () to add protons, neutrons, and electrons to the atom. Press **Play** ().

- A. Which particles are located in the nucleus?
- B. Which particles orbit around the nucleus?
- C. Turn on **Show element name**. What causes the element name to change?

protons and neutrons

electrons

the amount of protons



Explore Learning Element Builder Gizmo Answer Key

G Thomas



Explore Learning Element Builder Gizmo Answer Key:

The Enigmatic Realm of **Explore Learning Element Builder Gizmo Answer Key**: Unleashing the Language is Inner Magic

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Table of Contents Explore Learning Element Builder Gizmo Answer Key

1. Understanding the eBook Explore Learning Element Builder Gizmo Answer Key
 - The Rise of Digital Reading Explore Learning Element Builder Gizmo Answer Key
 - Advantages of eBooks Over Traditional Books
2. Identifying Explore Learning Element Builder Gizmo Answer Key
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Explore Learning Element Builder Gizmo Answer Key
 - User-Friendly Interface
4. Exploring eBook Recommendations from Explore Learning Element Builder Gizmo Answer Key
 - Personalized Recommendations
 - Explore Learning Element Builder Gizmo Answer Key User Reviews and Ratings
 - Explore Learning Element Builder Gizmo Answer Key and Bestseller Lists

5. Accessing Explore Learning Element Builder Gizmo Answer Key Free and Paid eBooks
 - Explore Learning Element Builder Gizmo Answer Key Public Domain eBooks
 - Explore Learning Element Builder Gizmo Answer Key eBook Subscription Services
 - Explore Learning Element Builder Gizmo Answer Key Budget-Friendly Options
6. Navigating Explore Learning Element Builder Gizmo Answer Key eBook Formats
 - ePub, PDF, MOBI, and More
 - Explore Learning Element Builder Gizmo Answer Key Compatibility with Devices
 - Explore Learning Element Builder Gizmo Answer Key Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Explore Learning Element Builder Gizmo Answer Key
 - Highlighting and Note-Taking Explore Learning Element Builder Gizmo Answer Key
 - Interactive Elements Explore Learning Element Builder Gizmo Answer Key
8. Staying Engaged with Explore Learning Element Builder Gizmo Answer Key
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Explore Learning Element Builder Gizmo Answer Key
9. Balancing eBooks and Physical Books Explore Learning Element Builder Gizmo Answer Key
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Explore Learning Element Builder Gizmo Answer Key
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine Explore Learning Element Builder Gizmo Answer Key
 - Setting Reading Goals Explore Learning Element Builder Gizmo Answer Key
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Explore Learning Element Builder Gizmo Answer Key
 - Fact-Checking eBook Content of Explore Learning Element Builder Gizmo Answer Key
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
- Exploring Educational eBooks

14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

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