\*Preview the questions in “Elements and Their Symbols,” then read and discuss the passage.

\*With a partner, discuss the main ideas of each paragraph and write your answers to the questions in complete sentences.

**Elements and Their Symbols**

Everything in the universe is either matter or energy. If something has mass and takes up space, it is matter. If it is able to make changes happen, it is energy. Energy does not have mass or volume.

Chemistry is the study of matter, its properties, and how it changes. Every kind of matter has a set of **physical properties that help identify the matter**. For example, **some properties are easily observable**, such as color, shape, odor, and texture. **Other properties, such as mass, volume, and temperature, can be measured** using tools. **Some properties cannot be observed or measured directly. Instead, they must be calculated. Density is one of those types of properties.**

1. What are physical properties?

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The building blocks of matter are known as elements**. An element is the simplest pure substance made of only one kind of atom and has definite properties**. Over the centuries, scientists have worked to organize all the known elements of the universe into a specialized chart called the Periodic Table of the Elements.

1. What is an element?

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**Chemical symbols are used to represent each element**. The Periodic Table is used by scientists around the world. No matter what country you are in or what language is spoken, the language of chemistry is the same all over the world. **The chemical symbol for each element is a shorthand method of writing the name.**

1. Why do scientists use chemical symbols?

**Writing chemical Symbols (Rules to Follow)**

* The symbol always begins with a capital letter.
* If there is a second or third letter, it is written in lower case.
* Periods are **not** used at the end of the symbol

**Elements are Their Symbols**

Complete the journal handout to complete Symbol and Element Charts. After completing and checking, place the charts in your journal.

**Elements and Their Symbols Summary**

Refer back to the reading passage. Write one sentence to summarize the main idea of each paragraph in your journal.

Review your classification of examples and nonexamples from the Explore activity. Does your explanation need to be revised to reflect new information? Rewrite your explanation to include the term ***element***.

**Element and Their Symbols Charts**

**Fill in the missing Symbol or Element using The Periodic Table**

|  |  |
| --- | --- |
| **Symbol** | **Element** |
| O |  |
|  | nitrogen |
| Fe |  |
|  | cobalt |
|  | gold |
| Li |  |
| Ag |  |
|  | copper |
| Cl |  |
|  | neon |
| Si |  |
| B |  |