Name _____ Date _____ Class _____



# Key Terms

*Complete the following paragraphs using the list of words and phrases below. Each word or phrase may be used only once.*

| | | | |
|---|---|---|---|
| atoms | heterogeneous | physical | density |
| molecule | elements | weight | mixture |
| homogeneous | mass | chemical bond | compound |
| matter | substance | chemistry | volume |
| chemical | | | |

The study of the properties of matter and how matter changes is **1.**_____. **2.**_____ is anything that has mass and takes up space. A(n) **3.**_____ is a single kind of matter that is pure, having a specific makeup and specific properties. Every form of matter has two kinds of properties. A(n) **4.**_____ property can be observed without changing the substance into another substance. A(n) **5.**_____ property describes the ability of a substance to change into different substances.

The simplest substances, called **6.**_____, cannot be broken down into any other substances by physical or chemical means. A substance made of two or more elements chemically combined is a(n) **7.**_____. A(n) **8.**_____ consists of two or more substances that are in the same place but not chemically combined. You can see the different parts in a **9.**_____ mixture. But the substances in a **10.**_____ are so evenly mixed that you can't see the different parts.

The basic particle of an element is called a(n) **11.**_____. Atoms can combine with other atoms. The force that holds two atoms together is called a(n) **12.**_____. A group of atoms that are joined together by chemical bonds form a larger particle called a(n) **13.**_____.

There are all sorts of ways of measuring matter. A measure of the force of gravity on an object is its **14.**_____. The measurement of how much matter an object contains is its **15.**_____. The amount of space that matter occupies is **16.**_____. The physical property that relates the mass and volume of an object or material is **17.**_____.

Name _____ Date _____ Class _____



# Key Terms

*Read the clues below and write the Key Terms from the chapter. Then find the terms hidden in the puzzle. The hidden terms may be found vertically, horizontally, or diagonally.*

1. The force pushing on a surface divided by the area of that surface _____
2. The change from a liquid to a gas _____
3. A state of matter with no definite shape or volume _____
4. A substance that flows _____
5. The resistance of a liquid to flowing _____
6. Vaporization that occurs on and below the surface of a liquid _____
7. A state of matter that has a definite volume but no shape of its own _____
8. The change in state from a liquid to a solid _____
9. A state of matter that has a definite volume and a definite shape _____
10. The change in state from a solid to a liquid _____
11. A diagram that tells how two variables are related _____

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| v | a | p | o | r | i | z | a | t | i | o | n |
| i | u | r | l | m | l | i | q | u | i | d | f |
| s | s | e | n | e | y | q | i | d | x | g | r |
| c | o | s | o | l | i | d | w | n | n | r | e |
| o | w | s | m | t | p | f | f | i | p | a | e |
| s | x | u | m | i | a | s | l | d | d | p | z |
| i | t | r | c | n | a | i | c | u | p | h | i |
| t | t | e | g | g | o | x | c | i | i | x | n |
| y | c | i | p | b | t | w | q | m | c | d | g |

Name _____ Date _____ Class _____

**Elements and the Periodic Table** • *Review and Reinforce*

# Introduction to Atoms

## Understanding Ideas

1. Name three particles found in an atom.

_____

2. Which two particles are found in an atom's nucleus?

_____

3. An atom has the same number of which two particles?

_____

4. How many protons are in a carbon atom?

_____

5. How are elements identified in terms of their atoms?

_____

_____

6. Explain why scientists use models to study atoms.

_____

_____

## Building Vocabulary

*Match each term with its definition by writing the letter of the correct definition on the line beside the term in the left column.*

____ 7. nucleus

____ 8. proton

____ 9. neutron

____ 10. electron

____ 11. atomic number

____ 12. isotope

____ 13. mass number

____ 14. model

a. the sum of protons and neutrons in the nucleus of an atom

b. the very small center core of an atom

c. an atom that differs in the number of neutrons, but has the same number of protons

d. the particle of an atom that moves rapidly around the nucleus

e. an object that helps expain ideas about the natural world

f. the particle of an atom with a positive charge

g. the number of protons in the nucleus of every atom of an element

h. the particle of an atom that is neutral

Name _____ Date _____ Class _____

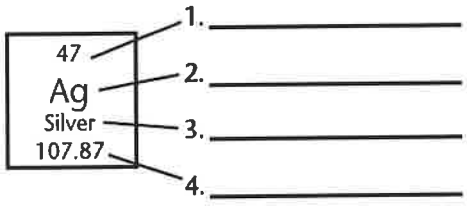


# Organizing the Elements



## Understanding Main Ideas

*The diagram below is a square from the periodic table. Label the four facts shown about each element.*




*Answer the following on a separate sheet of paper.*

5. In what order did Mendeleev arrange the elements in the periodic table?
6. What do elements in the same column in the periodic table have in common?
7. What can you predict about an element from its position in the periodic table?

## Building Vocabulary

*From the list below, choose the term that best completes each sentence.*

| | |
|---|---|
| atomic mass | period |
| chemical symbol | group |
| periodic table | |

8. An element's _____ is its row in the periodic table.
9. Mendeleev was the first to arrange elements according to their properties in a(n) _____.
10. Elements in a(n) _____, or family, of the periodic table have similar characteristics.
11. A(n) _____ is an abbreviation for the name of an element and has either one or two letters.
12. The _____ of an element is the average mass of all the isotopes of that element.