

Skills Worksheet

Directed Reading A

Section: Elements

- _____ 1. Which of the following is NOT a physical or chemical change?
- a. crushing
 - b. weighing
 - c. melting
 - d. passing electric current

ELEMENTS, THE SIMPLEST SUBSTANCES

2. A pure substance that cannot be separated into simpler substances by physical or chemical means is a(n) _____.
3. A substance that contains only one type of particle is a(n) _____.

PROPERTIES OF ELEMENTS

4. The amount of an element present does not affect the element's _____.
5. Why does a helium-filled balloon float up when it is released?
- _____
- _____

Look at each property listed below. If it is a characteristic property of elements, write CP on the line. If it is not a characteristic property, write N.

- | | |
|------------------------|--------------------------------|
| _____ 6. size | _____ 12. color |
| _____ 7. melting point | _____ 13. hardness |
| _____ 8. density | _____ 14. flammability |
| _____ 9. shape | _____ 15. weight |
| _____ 10. mass | _____ 16. reactivity with acid |
| _____ 11. volume | |

Directed Reading A *continued*

CLASSIFYING ELEMENTS BY THEIR PROPERTIES

17. What are some common properties that most terriers share?

18. All elements can be classified as metals, metalloids, or

_____.

19. An element that is shiny and that conducts heat and electric current well is

a(n) _____.

20. An element that conducts heat and electric current poorly, and can be a solid,

liquid, or gas is a(n) _____.

21. Elements that have properties of both metals and nonmetals

are _____.

**Indicate whether the description applies to a metal, a nonmetal, or a metalloid.
Write the correct letter in the space provided.**

_____ **22.** malleable

a. metalloids

_____ **23.** dull or shiny

b. nonmetals

_____ **24.** poor conductors

c. metals

_____ **25.** tend to be brittle and unmalleable as solids

_____ **26.** always shiny

_____ **27.** also called semiconductors

_____ **28.** always dull

_____ **29.** somewhat ductile

_____ **30.** boron, silicon, antimony

_____ **31.** lead, tin, copper

_____ **32.** sulfur, iodine, neon

Answer Key

Directed Reading A

SECTION: ELEMENTS

- B
- element
- pure substance
- characteristic properties
- A helium-filled balloon will float up when released because helium is less dense than air.
- N
- CP
- CP
- N
- N
- N
- CP
- CP
- CP
- N
- CP
- Answers will vary. Sample answer: Terriers are small and they have short hair.
- nonmetals
- metal
- nonmetal
- metalloid
- C
- A
- B
- B
- C
- A
- B
- A
- A
- C
- B

SECTION: COMPOUNDS

- Answers will vary. Sample answer: salt, water, and sugar
- C
- compound
- elements
- B

- Answers will vary. Sample answer: A compound has different properties than the elements that react to form it. Although sodium and chlorine are dangerous individually, they combine to form sodium chloride, a safe substance also known as table salt.
- B
- A
- C
- carbonic acid
- carbon, oxygen, and hydrogen
- chemical change
- D
- aluminum oxide

SECTION: MIXTURES

- mixture
- mixture
- compound
- Answers will vary. Sample answer: You can see each component in the pizza. Each component has the same chemical makeup as it did before the pizza was made.
- physical
- A
- B
- D
- C
- ratio
- D
- dissolving
- solute, solvent
- soluble
- solute
- alloy
- Answers will vary. Sample answer: Particles in solution are so small that they can never settle out, cannot be removed or filtered out, and cannot scatter light.
- concentration
- A dilute solution contains less solute than a concentrated solution does.
- solubility
- temperature, pressure
- D
- A