

Skills Worksheet

# Directed Reading B

## Section: Mixtures (pp. 142–147)

### PROPERTIES OF MIXTURES

1. A combination of two or more substances that are not chemically combined is called a(n) **mixture**.

2. When two or more materials combine chemically, they form a(n) **compound**.

3. Each substance in a mixture keeps its **identity (chemical properties)**.

4. How can you tell that a pizza is a mixture?

**because each piece (topping) of the pizza retains its unique flavor and structure.**

5. Mixtures can be separated through **physical** changes.

**ex. boiling salt water**

**Match each substance with the correct method of separation. Write the letter in the space provided. Each method may be used only once.**

**magnet**

6. a mixture of aluminum and iron

a. distillation

**distillation**

7. crude oil **vaporizing to separate liquids**

b. magnet

**centrifuge**

8. parts of blood **a test tube spinner**

c. filter

**filter**

9. sulfur and salt

d. centrifuge

10. Granite can be pink, gray, or black, depending on the

**combination**

of feldspar, mica, and quartz.

### SOLUTIONS

**d.**

11. Which of the following is NOT true of solutions?

- a. They contain a dissolved substance called a solute.
- b. They are composed of two or more evenly distributed substances.
- c. They contain a substance called a solvent, in which another substance is dissolved.
- d. They appear to be more than one substance.

12. The process in which particles of substances separate and spread evenly

through a mixture is known as **diffusion or dissolving**.

**Directed Reading B** *continued*

13. In a solution, the **solute (ex. salt)** is the substance that is dissolved, and the **solvent (ex. water)** is the substance in which it is dissolved.

14. Salt is **soluble** in water because it dissolves in water.

15. When two gases or two liquids form a solution, the substance that is present in the largest amount is the **solvent**.

16. A solid solution of metals or nonmetals dissolved in metals is

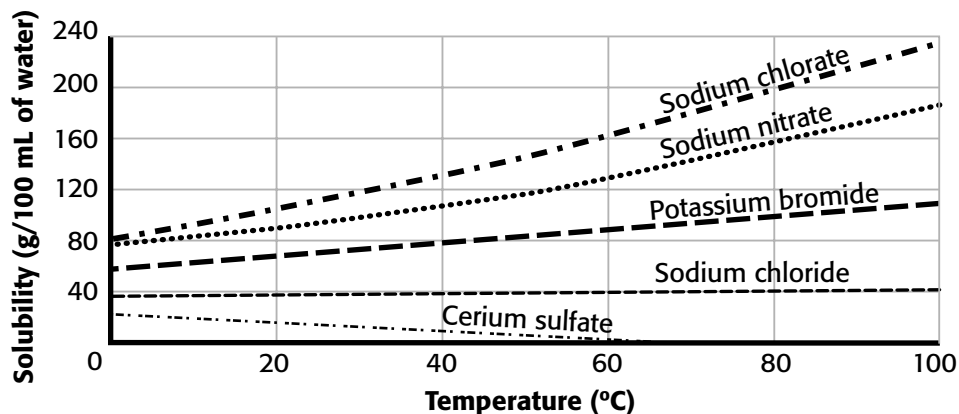
a(n) **alloy**.

17. What can particles in solution NOT do because they are so small?

They cannot be removed by filtering.  
It requires distillation.

**CONCENTRATION OF SOLUTIONS**

Use the graph below to answer questions 18 and 19. Write the letter of the correct answer in the space provided.



- d.** 18. Look at the graph above. Which solid is less soluble at higher temperatures than at lower temperatures?
- sodium chloride
  - sodium nitrate
  - potassium bromide
  - cerium sulfate

- a.** 19. Look at the graph above. Which compound's solubility is least affected by temperature changes?
- sodium chloride
  - sodium nitrate
  - potassium bromide
  - cerium sulfate

**Directed Reading B** *continued*

---

**20.** A measure of the amount of solute dissolved in a given amount of solvent is called **concentration**.

**21.** What is the difference between a dilute solution and a concentrated solution?

**dilute solution has little amounts of solute.  
concentrated solutions have large amounts of solute.**

---

**22.** The ability of a solute to dissolve in a solvent at a certain temperature and pressure is called **solubility**.

## Skills Worksheet

**Vocabulary and Section Summary B****Elements****VOCABULARY**

After you finish reading the section, try this puzzle! The underlined words below are missing all their vowels. Write the completed words in the spaces provided. Terms may be used more than once.

1. Each LMNT can be classified by a unique set of physical and chemical properties.  
element
2. Elements that have properties of both metals and nonmetals are called MTLLDS, or SMMTLS.  
metalloids, or semimetals
3. The elements iron, nickel, cobalt, lead, tin, and copper are all MTLS.  
metals
4. A(n) PR SBSTNC is a substance in which all the “building-block” particles, or atoms, are identical.  
pure substance
5. NNMTLS are elements that are dull and poor conductors of heat and electric current.  
nonmetals
6. The elements boron, antimony, and silicon are all MTLLDS.  
metalloids
7. A substance that cannot be broken down into simpler substances by physical or chemical means is known as a(n) LMNT.  
element
8. Elements that are malleable, ductile, shiny, and good conductors of heat and electricity are grouped into a category called the MTLS.  
metals
9. The elements iodine, sulfur, and neon are all NNMTLS.  
nonmetals