

1. Classify a sample of matter as a substance or a mixture.

a. hand cream \_\_\_\_\_ b. strawberry \_\_\_\_\_ c. aluminum \_\_\_\_\_

2. Further classify a sample of matter as homogeneous or heterogeneous

a. glue \_\_\_\_\_ b. flower \_\_\_\_\_ c. ink \_\_\_\_\_

d. vegetable soup \_\_\_\_\_ e. apple juice \_\_\_\_\_

3. Classify changes in matter as physical or chemical changes.

a. bending a pipe \_\_\_\_\_ b. boiling alcohol \_\_\_\_\_ c. fireworks \_\_\_\_\_

d. melting butter \_\_\_\_\_ e. breaking a window \_\_\_\_\_ f. burning gasoline \_\_\_\_\_

4. A chemist heats some white crystals in a test tube. The crystals make a cracking sound, fall apart into smaller pieces, and give off a misty gas. A colorless liquid forms around the cooler top of the test tube. Tell whether you think the crystals are a compound or an element, and why.

5. Car batteries give off a potentially explosive mixture of gases. What kind of change is taking place in the battery? What evidence do you have to support your decision?

6. Name and describe the three states of matter.

7. When 16 grams of methane gas combine with 64 grams of oxygen, 44 grams of carbon dioxide form, plus water. What mass of water is produced?

8. A liquid is allowed to evaporate and leaves no residue. Can you determine whether it was an element, a compound, or a mixture?

Do #1 -11 of the Standardized Test Prep on Page 61.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

### 9. Column A

- \_\_\_\_\_ 1. volume
- \_\_\_\_\_ 2. mass
- \_\_\_\_\_ 3. substance
- \_\_\_\_\_ 4. physical property
- \_\_\_\_\_ 5. solid
- \_\_\_\_\_ 6. liquid
- \_\_\_\_\_ 7. gas
- \_\_\_\_\_ 8. vapor
- \_\_\_\_\_ 9. extensive property
- \_\_\_\_\_ 10. mixture
- \_\_\_\_\_ 11. heterogeneous mixture
- \_\_\_\_\_ 12. solution
- \_\_\_\_\_ 13. phase
- \_\_\_\_\_ 14. distillation
- \_\_\_\_\_ 15. filtration
- \_\_\_\_\_ 16. element
- \_\_\_\_\_ 17. compound
- \_\_\_\_\_ 18. mixture
- \_\_\_\_\_ 19. chemical symbol
- \_\_\_\_\_ 20. chemical change
- \_\_\_\_\_ 21. chemical reaction
- \_\_\_\_\_ 22. reactants
- \_\_\_\_\_ 23. product
- \_\_\_\_\_ 24. chemical property
- \_\_\_\_\_ 25. precipitate

### Column B

- A. a quality or condition of a substance that can be observed or measured without changing the substance's composition
- B. matter that takes both the shape and volume of its container
- C. matter that has a uniform and definite composition
- D. measure of the space occupied by an object
- E. matter that has a definite volume and takes the shape of its container
- F. a change to a material that does not change its composition
- G. gaseous state of a substance that generally exists as a liquid or solid at room temperature
- H. matter that has a definite shape and volume
- I. the amount of matter that an object contains
- J. depends on the type of matter in a sample
- K. depends on the amount of matter in a sample
- L. a mixture that has a uniform composition throughout
- M. any part of a sample that has uniform composition and properties
- N. a mixture that is not uniform in composition
- O. separation of a liquid by boiling followed by condensation
- P. another name for a homogeneous mixture
- Q. a physical blend of two or more components
- R. a method for separating a solid from a liquid in a heterogeneous mixture
- S. substance that can be separated into simpler substances only by chemical means
- T. a physical blend of two or more components
- U. one or two letters that represent an element
- V. simplest form of matter that has a unique set of properties
- W. a change that produces matter with a different composition than the original matter
- X. solid that forms and settles out of a liquid mixture
- Y. starting substances in a chemical reaction
- Z. ability of a substance to undergo a specific chemical change
- AA. substance formed in a chemical reaction
- BB. process in which one or more substances change into one or more new substances