Section Review

Objectives

• Identify physical properties and physical changes
• Distinguish intensive properties from extensive properties
• Differentiate among three states of matter

Vocabulary

• mass
• volume
• extensive property
• intensive property
• substance
• physical property
• solid
• liquid
• gas
• vapor
• physical change

Part A Completion

Use this completion exercise to check your understanding of the concepts and terms that are introduced in this section. Each blank can be completed with a term, short phrase, or number.

Properties used to describe matter can be classified as ___1___ or ___2___. The ___3___ of an object is a measure of the amount of matter the object contains. The ___4___ of an object is a measure of the space occupied by the object. An extensive property is one that depends on the ___5___ of matter. An intensive property is one that depends on the ___6___ of matter.

A ___7___ is matter that has uniform and definite composition. A solid has a definite ___8___ and ___9___. A liquid has a definite volume, but takes the ___10___ of its container. A ___11___ takes both the shape and volume of its container.

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

_____ 11. Matter has mass and occupies space.

_____ 12. A liquid has a definite shape.

_____ 13. Heating a solid to 200°C will cause it to change to a liquid.

_____ 14. Gases are easier to compress than liquids.
Part C Matching

Match each description in Column B to the correct term in Column A.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>_______ 15. volume</td>
<td>a. a quality or condition of a substance that can be observed or measured without changing the substance’s composition</td>
</tr>
<tr>
<td>_______ 16. mass</td>
<td>b. matter that takes both the shape and volume of its container</td>
</tr>
<tr>
<td>_______ 17. substance</td>
<td>c. matter that has a uniform and definite composition</td>
</tr>
<tr>
<td>_______ 18. physical property</td>
<td>d. measure of the space occupied by an object</td>
</tr>
<tr>
<td>_______ 19. solid</td>
<td>e. matter that has a definite volume and takes the shape of its container</td>
</tr>
<tr>
<td>_______ 20. liquid</td>
<td>f. a change to a material that does not change its composition</td>
</tr>
<tr>
<td>_______ 21. gas</td>
<td>g. gaseous state of a substance that generally exists as a liquid or solid at room temperature</td>
</tr>
<tr>
<td>_______ 22. vapor</td>
<td>h. matter that has a definite shape and volume</td>
</tr>
<tr>
<td>_______ 23. physical change</td>
<td>i. the amount of matter that an object contains</td>
</tr>
<tr>
<td>_______ 24. extensive property</td>
<td>j. depends on the type of matter in a sample</td>
</tr>
<tr>
<td>_______ 25. intensive property</td>
<td>k. depends on the amount of matter in a sample</td>
</tr>
</tbody>
</table>

Part D Questions and Problems

Answer the following questions in the space provided.

26. Classify each of the following as a solid, liquid, gas, or vapor.

   a. steam
   b. apple juice
   c. gasoline
   d. hockey puck
   e. air

27. State whether the following changes are physical changes.

   a. melting butter
   b. breaking a window
   c. burning gasoline
   d. boiling water