

Lesson Outline**LESSON 1*****Matter and Its Properties*****A. What is matter?**

1. Anything that takes up space and has mass is _____.
2. _____ from the Sun is not matter, although you can see it.

B. States of Matter

1. The amount of space a material occupies is its _____.
2. Any matter that has a definite shape and a definite volume is a(n) _____.
3. Any matter that has a definite volume but does not have a definite shape is a(n) _____.
4. Any matter that does not have a definite shape or a definite volume is a(n) _____.
5. All matter is formed of tiny particles that are constantly _____.
 - a. The particles in a(n) _____ stay in one place but move quickly back and forth in all directions.
 - b. The particles in a(n) _____ can slide past one another.
 - c. The particles in a(n) _____ move freely.
6. The particles in matter _____ one another.

C. What are physical properties?

1. A physical property is any characteristic of a material that you can observe without _____ the identity of the material.
2. One physical property is _____, which is the amount of matter in an object.
3. _____ is the gravitational pull on an object.
4. The weight of an object depends on the _____ of an object; for example, objects weigh more on Earth than on the Moon.
5. Multiply the length, width, and height of a regular object to calculate its _____.
6. The mass per unit volume of a substance is its _____.

Lesson Outline continued

7. The ability of one material to dissolve in another is _____.
8. The _____ point is the temperature at which a solid changes to a liquid.
9. The _____ point is the temperature at which a liquid changes to a gas.
10. _____ is a property that allows some materials to attract certain metals.

D. What are chemical properties?

1. A chemical property is a characteristic of a material that you can observe as it _____ to a different substance.
2. _____ is the ability of a material to burn easily.
3. _____ changes to rust when it reacts with water and oxygen in the air.

E. Identifying Matter Using Physical Properties

1. _____ and boiling points do not depend on the amount of the material, so they are good properties for identifying unknown substances.
2. Sometimes you have to observe more than one _____ to identify an unknown material.

F. Sorting Materials Using Properties

1. Physical properties and chemical properties are useful for _____ materials.
2. An example of a(n) _____ property is the tendency for milk or yogurt to spoil.

G. Separating Mixtures Using Physical Properties

1. You can separate mixed materials by melting or _____ the mixture.
2. You can separate some mixed materials using a(n) _____ to attract some materials and not others.

Content Practice A**LESSON 1*****Matter and Its Properties***

Directions: *On the line before each definition, write the letter of the term that matches it correctly. Each term is used only once.*

- | | |
|---|-----------------------------|
| _____ 1. anything that has mass and takes up space | A. liquid |
| _____ 2. a state of matter with a definite shape and volume | B. mass |
| _____ 3. a state of matter with a definite volume but no definite shape | C. physical property |
| _____ 4. a state of matter that does not have a definite volume or a definite shape | D. volume |
| _____ 5. the amount of matter in an object | E. gas |
| _____ 6. the gravitational pull on an object | F. solubility |
| _____ 7. the amount of space an object occupies | G. chemical property |
| _____ 8. the mass per cubic volume of a substance | H. solid |
| _____ 9. a characteristic of a material that can be observed without changing the identity of the material | I. weight |
| _____ 10. a characteristic of a material that can be observed as the material reacts with or changes into a different substance | J. flammability |
| _____ 11. the ability of one material to dissolve in another | K. matter |
| _____ 12. the ability to burn easily | L. density |

Content Practice B

LESSON 1

Matter and Its Properties

Directions: Answer each question or respond to each statement on the lines provided.

1. What is matter?

2. **Explain** the properties of a solid, a liquid, and a gas.

a. solid: _____

b. liquid: _____

c. gas: _____

3. **Explain** the difference between mass and weight.

4. What are physical properties of a material?

5. What are chemical properties of a material?

6. What is density?

7. What happens when iron rusts?

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