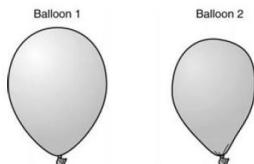


Name: \_\_\_\_\_

## Unit 1 Review

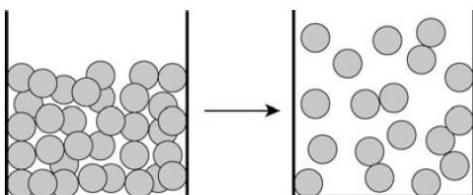
1. One chemical property that can be measured in a substance is its reactivity with water. What is another chemical property?
  - A.  density
  - B.  flammability
  - C.  malleability
  - D.  solubility
  
2. Matter is made up of particles. Which of the following statements is true about these particles?
  - A.  The particles that make up solids do not move.
  - B.  The particles that make up liquids do not move.
  - C.  The particles that make up all matter are constantly in motion.
  - D.  Only the particles that make up gases are constantly in motion.
  
3. Two balloons are inflated to an equal volume. Balloon 2 is placed in the freezer for 20 minutes.



Why would freezing a balloon produce the results shown in Balloon 2?

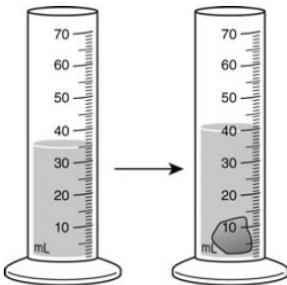
- A.  Increased kinetic energy decreases the attraction between particles inside the balloon.
- B.  Increased kinetic energy increases the attraction between particles inside the balloon.
- C.  Decreased kinetic energy decreases the attraction between particles inside the balloon.
- D.  Decreased kinetic energy increases the attraction between particles inside the balloon

4. Which of the following statements describes a liquid?
- A. ○ A liquid has both a definite shape and a definite volume.
  - B. ○ A liquid has neither a definite shape nor a definite volume.
  - C. ○ A liquid has a definite shape but not a definite volume.
  - D. ○ A liquid has a definite volume but not a definite shape.
5. A water molecule is made up of one oxygen atom and two hydrogen atoms. Why is water considered a pure substance?
- A. ○ Water can be broken down by physical means.
  - B. ○ Water can be combined with other substances by physical means.
  - C. ○ Each water molecule is identical.
  - D. ○ Water molecules are made up of different types of atoms.
6. A beaker containing a certain substance has heat applied to it. The particles that make up the substance begin to move farther apart from each other.



- What change of state could be occurring to the substance in the beaker?
- A. ○ The substance is changing from a gas to a liquid.
  - B. ○ The substance is changing from a gas to a solid.
  - C. ○ The substance is changing from a liquid to a solid.
  - D. ○ The substance is changing from a liquid to a gas.
7. The law of conservation of mass states that mass cannot be created or destroyed. To what type of change does this law apply?
- A. ○ physical changes only
  - B. ○ chemical changes only
  - C. ○ both physical and chemical changes
  - D. ○ only mass that is not undergoing change

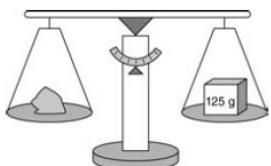
8. A beaker containing ice and water is placed on a warm hotplate. Will the ice in the beaker undergo a physical or chemical change?
- A.  a physical change because it will change state
  - B.  a chemical change because it will change state
  - C.  a physical change because it will form a new substance
  - D.  a chemical change because it will form a new substance
9. What is the boiling point of water?
- A.  0° C
  - B.  32° C
  - C.  100° C
  - D.  212° C
10. A rock is dropped into a graduated cylinder filled with 35 mL of water.



What is the volume of the rock? (Hint: 1 mL water = 1 cm<sup>3</sup>)

- A.  40 cm<sup>3</sup>
- B.  14 cm<sup>3</sup>
- C.  5 cm<sup>3</sup>
- D.  35 cm<sup>3</sup>

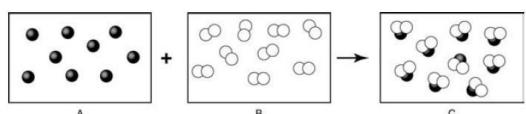
11. The instrument below is used to measure an object.



What is the instrument measuring?

- A.  gravity
- B.  weight
- C.  density
- D.  mass

12. The diagram below shows a chemical reaction.



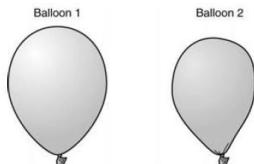
What is being formed in the box labeled C?

- A.  a compound
- B.  an element
- C.  a mixture
- D.  an atom

Unit 1 Review

ANSWER KEY

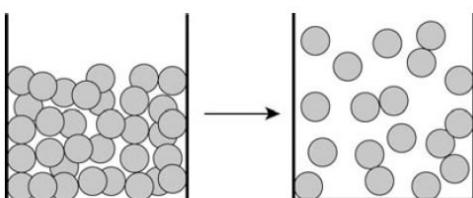
1. One chemical property that can be measured in a substance is its reactivity with water. What is another chemical property?
  - A.  density
  - B.  flammability
  - C.  malleability
  - D.  solubility
  
2. Matter is made up of particles. Which of the following statements is true about these particles?
  - A.  The particles that make up solids do not move.
  - B.  The particles that make up liquids do not move.
  - C.  The particles that make up all matter are constantly in motion.
  - D.  Only the particles that make up gases are constantly in motion.
  
3. Two balloons are inflated to an equal volume. Balloon 2 is placed in the freezer for 20 minutes.



Why would freezing a balloon produce the results shown in Balloon 2?

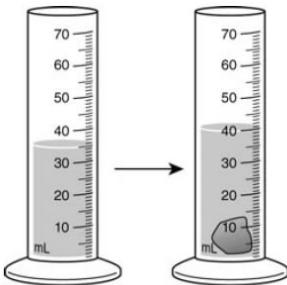
- A.  Increased kinetic energy decreases the attraction between particles inside the balloon.
- B.  Increased kinetic energy increases the attraction between particles inside the balloon.
- C.  Decreased kinetic energy decreases the attraction between particles inside the balloon.
- D.  Decreased kinetic energy increases the attraction between particles inside the balloon

4. Which of the following statements describes a liquid?
- A. ○ A liquid has both a definite shape and a definite volume.
  - B. ○ A liquid has neither a definite shape nor a definite volume.
  - C. ○ A liquid has a definite shape but not a definite volume.
  - D. ⓐ A liquid has a definite volume but not a definite shape.
5. A water molecule is made up of one oxygen atom and two hydrogen atoms. Why is water considered a pure substance?
- A. ○ Water can be broken down by physical means.
  - B. ○ Water can be combined with other substances by physical means.
  - C. ⓐ Each water molecule is identical.
  - D. ○ Water molecules are made up of different types of atoms.
6. A beaker containing a certain substance has heat applied to it. The particles that make up the substance begin to move farther apart from each other.



- What change of state could be occurring to the substance in the beaker?
- A. ○ The substance is changing from a gas to a liquid.
  - B. ○ The substance is changing from a gas to a solid.
  - C. ○ The substance is changing from a liquid to a solid.
  - D. ⓐ The substance is changing from a liquid to a gas.
7. The law of conservation of mass states that mass cannot be created or destroyed. To what type of change does this law apply?
- A. ○ physical changes only
  - B. ○ chemical changes only
  - C. ⓐ both physical and chemical changes
  - D. ○ only mass that is not undergoing change

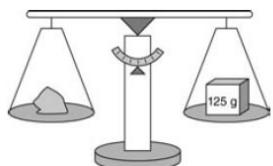
8. A beaker containing ice and water is placed on a warm hotplate. Will the ice in the beaker undergo a physical or chemical change?
- A.  a physical change because it will change state
  - B.  a chemical change because it will change state
  - C.  a physical change because it will form a new substance
  - D.  a chemical change because it will form a new substance
9. What is the boiling point of water?
- A.   $0^{\circ}\text{ C}$
  - B.   $32^{\circ}\text{ C}$
  - C.   $100^{\circ}\text{ C}$
  - D.   $212^{\circ}\text{ C}$
10. A rock is dropped into a graduated cylinder filled with 35 mL of water.



What is the volume of the rock? (Hint: 1 mL water = 1  $\text{cm}^3$ )

- A.   $40\text{ cm}^3$
- B.   $14\text{ cm}^3$
- C.   $5\text{ cm}^3$
- D.   $35\text{ cm}^3$

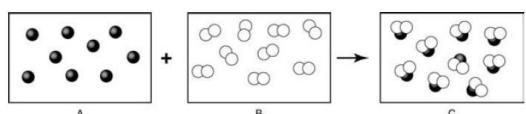
11. The instrument below is used to measure an object.



What is the instrument measuring?

- A.  gravity
- B.  weight
- C.  density
- D.  mass

12. The diagram below shows a chemical reaction.



What is being formed in the box labeled C?

- A.  a compound
- B.  an element
- C.  a mixture
- D.  an atom